American

AMERICAN
MILK REVIEW
BUTTER REVIEW
EGG & POULTRY REVIEW

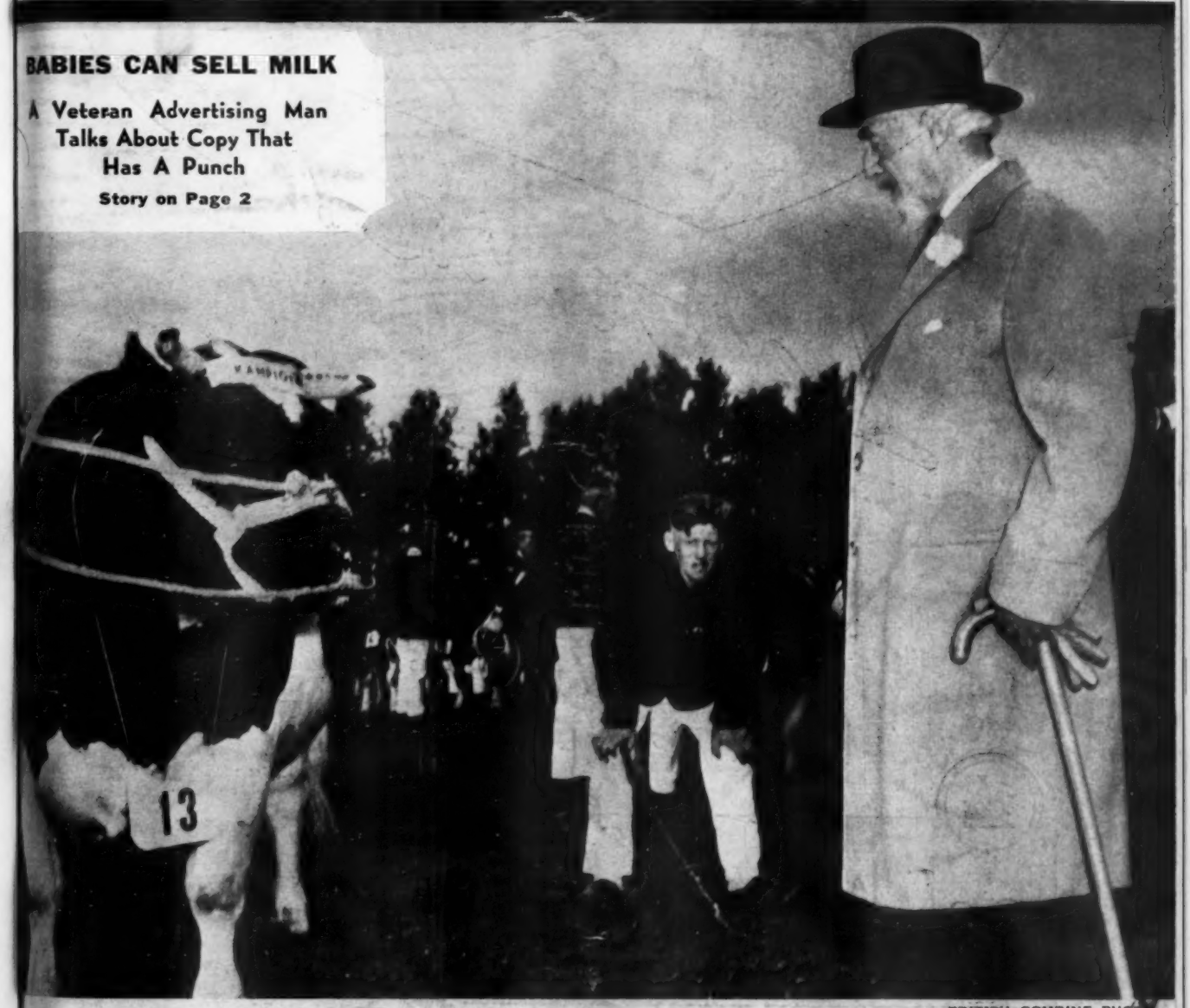
MILK REVIEW

CIRCULATION OVER 15,000 MILK PLANTS

BABIES CAN SELL MILK

A Veteran Advertising Man Talks About Copy That Has A Punch

Story on Page 2



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XUM

Last word!

The plant, equipment and high sanitary standards of the Chippewa County Co-op. Assn. at Bloomer, Wis., represent the *last word* in milk processing. And naturally...the *last word* in equipment includes three De Laval "Air-Tight" Separators as shown in the photograph.

Our experience gained in the building of many thousands of De Laval "Air-Tights" down through the years and the proved performance which they represent is the very best assurance available to the man responsible for plant equipment and its operating performance that he will—

"Be Right—with a De Laval 'AIR-TIGHT'"

De Laval *"AIR-TIGHT"* **CREAM SEPARATORS and MILK CLARIFIERS**

...STAINLESS STEEL EQUIPPED!

THE DE LAVAL SEPARATOR COMPANY
165 Broadway, New York 6 • 427 Randolph St., Chicago 6
DE LAVAL PACIFIC CO. • 61 Beale St., San Francisco 5
THE DE LAVAL COMPANY, Limited
Peterborough, Ontario

American MILK REVIEW

VOLUME 10 - - JANUARY 1948 - - NUMBER 1

CONTENTS

	Page
Better Advertising *By Peter Ham*	2
Editorially Speaking	4
Geneva Trade Agreements *By Norman Myrick*	6
Cartoon — Dairy Daze	10
Boston's New Price Formula	14
Bos Tarus Primigenius	22
Dairy Industry Cards Effective	28
Dedication in Connecticut	30
New Angle on Cottage Cheese *By W. H. E. Reid and M. O. Maughan*	34
Merchandising Mobilization *By Owen M. Richards*	38
What About House Organs? *By Herb Saal*	42
Kefir Fermented Milks *By L. A. Burkey*	46
Problems of the Industry *By R. F. Holland and J. C. White*	48
Fluid Milk Prices in City Markets	50
What Happens to Vitamin A?	51
The Rubber Outlook *By Herbert E. Smith*	53
Tuberculosis Fight Goes On	54
Rising Dairy Costs Seen	56
Price of Seasonal Surplus	58
Cleaning HTST Pasteurizers *By W. H. Haskell*	60
Research Report	62
Foreign Dairy Students	63
Foot and Mouth Disease	64
Food Industries to Participate	68
Using Our Separator	70
Ohio Dairy Products Association	73
Wants and For Sales	74
Events to Come	76
Index to Advertisers	76

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Do You Need

BETTER ADVERTISING

By

PETER HAM

Batten, Barton, Durstine, and Osborn, Inc.

PETER HAM

If you spend money on advertising, and you probably do, the odds are 99 to 1 that you often wonder whether you're spending it as well as you might. There are right ways and wrong ways to advertise and tricks in every trade. The REVIEW asked a seasoned advertising man to write about some of the do's and don'ts of his calling. In this article, Peter Ham, an agricultural advertising specialist, presents an idea that may help you get more for your advertising dollar.

THE BEST ADVERTISEMENT for any milk company is the product it sells – the milk that comes out of the bottle.

That's such a truism that it hardly needs to be put in black and white for milk men. But, it's a truism that can cost you dearly if you ignore it ever so little.

Your next best ad is your deliveryman. To a housewife, the milkman is the milk company itself. If he is neat, courteous, and thoughtful, he's a good advertisement. If he's sloppy, discourteous and thoughtless, he's a poor advertisement – so poor, in fact, he can easily offset any advantages you deserve because of high-quality product, or because of other things you do to curry favor with your customers.

For the purposes of this article, we assume you have a good product and that your delivery service is par or better. Even so, you still need new customers. In the normal course of business, you're bound to lose a certain percentage of old patrons and you must, therefore, replace them.

Advertising and Customers

The importance of advertising depends chiefly upon how urgently you need customers. If your goal is big, you must work harder and possibly spend more money than you would if your goal is small. But you need *good* advertising or your efforts and money are largely wasted anyhow.

Advertising can help in another direction, of course. It can be used to help step up sales to your present customers. But let's not permit that to mix us up. Good milk advertising is good milk advertising, any way you look at it. If it will sell a stranger on your product, it ought to make better customers out of those that patronize you now.

All right, what makes a good milk advertisement?

The answer is babies!

In advertisements to women, babies beat all other illustrations to attract attention and hold the reader. A recent analysis of over 2,200 advertisements in newspapers proved this point. Babies attracted more women readers per dollar than any other type of illustration.

Second best were food pictures when used with recipes. Third were famous personalities, and fourth were pictures of animals, pets, etc. Products, by themselves without people are the poorest illustrations. In the middle range – not very effective in attracting the attention of housewives – are illustrations showing young people, older children and pictures of family scenes.

There's a moral in this: use a picture of a bottle of your milk only as a last resort.

So, since it's babies, why not do an advertising campaign with a series of ads on your "Newest Customers"? Here's one way to work it out.

Your Drivers Can Help

Arrange to have your drivers report every new baby born on their routes. Ordinarily they know such vital facts anyhow, but if they don't, all they need to do is ask a leading question now and then. Have them turn the facts in at the office; and then set up a "tickler" file for about 8 months hence. By that time the babies are at the cute stage and most of them will have been on your milk for two or three months or more.

But it's always wise to be sure. So, as the "ticklers" come up, have the drivers check. Is the baby doing well? Is it, for sure, on whole milk? Our milk?

Next make a deal with a local photographer. Pick on one that has ability, and preferably one that's a little hungry for business. In return for your list of "hot prospects" for baby pictures – pictures he can take and sell – give him a nominal fee for 2 prints of each baby. One print goes to the mother with the compliments of her milk company and the other, with a release, signed by her, comes to you. The release, of course, gives you permission to use the infant's picture in your advertising. It will probably be better to have the photographer deliver the picture that's for her. He will want to see her anyhow and try to sell several prints on his own account. When he does that, of course he can get the release signed.

If you find that you're going to have so many "new customers" you might not be able to use all their pictures, just take smaller ads. It's always good to run small ads and run them frequently, especially when they're the kind of ads folks will readily see, and especially, also, when you

Baby Ads "Out Pull" All Others

One of Our Newest Customers

Roger Carlson, 9 Byron Ave.; Crestmont, son of Mr. and Mrs. Peter Carlson. Roger was a year old when this picture was taken. The whole Carlson family are regular users of Dairy Dale Milk and other products.

Dairy Dale Milk Co., Crestmont, N. J.

Use More Milk - Nature's Best Food

Here's a simple advertising idea. These two ads show how the same material can be used in space 4 inches deep on 1 newspaper column or 6 inches on 2 columns. It's a "natural" for milk advertising. The accompanying story tells how to put it to work in your own market.

One of Our Newest Customers

Roger Carlson, 9 Byron Ave.; Crestmont, son of Mr. and Mrs. Peter Carlson. Roger was a year old when this picture was taken. The entire Carlson family are regular users of Dairy Dale Milk and other wholesome Dairy Dale products.

Dairy Dale Milk Co., Crestmont, N. J.

Use More Milk - Nature's Best Food

don't need to use a lot of copy. Some weeks you might have several little ads in the same paper. So much the better!

Let's talk about copy for a minute. Any good milk man who really believes in his product and his service can talk (or write) by the hour about them. He'll tell about his superior dairies — the high-bred cows, the skillful dairymen, the lush pasture and the balanced rations. Then he will spend a page or two on the highly efficient system by which the milk is picked up promptly and transported in sterilized refrigeration to his plant. There, applied modern science really reaches its zenith.

Up to this time it was simply wonderful milk, mind you. But now it is filtered, pasteurized, homogenized, standardized, and irradiated. Wow! Now we've really hit our stride. What do you mean "there's nothing to say in our ads"? Don't you know anything about the milk business after all?

Hold everything, Mr. Advertiser. Don't forget that milk is a product with which housewives have a high — yes, very high — degree of familiarity. Unless you raise doubts in their minds, (as you can with just one poor bottle of milk per customer once in 5 years — as you can by sending out a sloppy, slovenly driver) unless you raise doubts in their minds, they'll assume that you know *your* business. They'll assume that you do the things you ought to do.

So, don't give 'em the "book" in your ads. If you must explain a new process or a new service, state it simply — one idea at a take. But most of the time you don't have anything new in your own end of the business. Then you're down to bed rock. What do you put in your ads then? Why, you simply remind folks of your good products and do the reminding in such a way that the thoughts, if any, which pass through their minds are favorable to you.

And that's a situation made to order for a campaign based on your "new" customers.

Here you combine two of the strongest appeals in advertising — human interest (babies) and news. The news are the facts about the infant — its name, address, name of its parents, and age when the picture was taken. That's a good start on the copy for your ad.

Now what should you say about yourself? At the very least, identify the child as "One of Our New Customers" and identify yourself. Beyond that, you can add such a statement as: the whole family uses our milk regularly. And then you might put in a plug for the idea of using *more* milk. It's that simple.

EDITORIALLY SPEAKING . .

Danger In The Milk Supply

FLUID MILK is a relatively newcomer to the food markets of the world. Although the practice of dairying ranks as one of the most ancient arts known to man, the perishable nature of milk demanded that it be turned into a form that could be preserved. Consequently the manufacture of butter, cheese, dried products, and sour or fermented creams was the form taken by the early industry.

The phenomenal growth of fluid milk consumption in recent years has tended to overshadow manufactured products, until today we are faced with a situation where the various segments of the industry are competing more insistently for the raw product. Fluid milk, as the most profitable outlet for the farmer, attracts the bulk of the commodity.

This competitive situation, which under ordinary circumstances would be a heartening indication of the popularity of dairy products, is today a source of potential trouble. Some portion of the industry will be curtailed as result of raw material shortage. Indeed, faced with decreasing cow numbers and a tremendous demand for fluid milk, the butter industry is already feeling the pinch. Latest reports show a 20 per cent decrease in the butter make from the same period last year. And last year's production was sharply down from previous years.

In view of the declining output in some of its sections that have played a major role in the evolution of the industry in this country, one cannot look upon new variations in dairy product types without caution.

Two articles appearing in this issue of the "*Review*" deal with new products. A description of the manufacture of Kefir fermented milk and of cottage cheese from nonfat dry milk solids gives detailed information concerning each.

It is an easy matter to become enthusiastic over this type of development. The expanded nutritional prospect that a more diversified list of dairy products offers is in itself a stirring thought. Intelligent application of these items to the problem of surplus milk utilization during the flush season is yet another role in which they could render valuable service. And, finally, the broader the base that can be established. the firmer will the industry be.

Yet, in spite of these obvious benefits to be gained from a further diversified group of dairy foods, the present situation is one that dictates carefully-considered approach to the exploitation of new products.

Until grain prices go down and producers find it more profitable to sell corn as milk than as grain, milk will be in relatively short supply. To accelerate the present competition for raw material can lead to the unhealthy weakening of some of the established and vital parts of the dairy industry. The logical course would appear to be one in which provision is made for the potential utilization of raw products when surplus milk is a problem.

Continued research, the development of more efficient equipment, and intensified spade work on marketing and merchandising, are activities with which the industry could profitably concern itself. Under such an arrangement ruinous competition to secure available supplies of milk would be avoided, and an effective means provided for absorbing the excess over fluid needs when the extent of the flow again makes this category a problem.

•

The Geneva Agreement

IF ALL of the oratory and all of the writing that has been expended on tariff questions in the United States could be gathered together it is doubtful that there is a library in the country big enough to hold the material. Almost without exception, every great epoch in our history from the Colonial Wars to the Marshall Plan has been directly or indirectly related to tariff considerations.

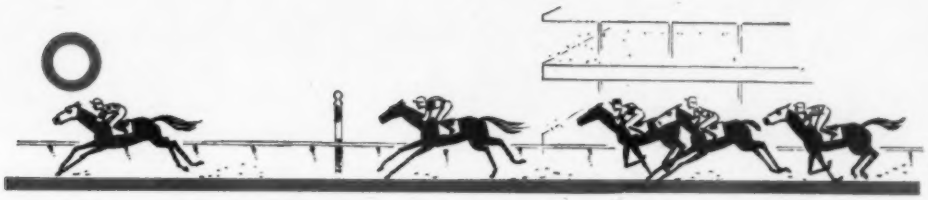
The significance of these facts is not in the rightness or wrongness of our tariff laws, but in the high and controversial position that foreign trade, – the economic relationship of nation with nation, – occupies in the minds of men. Although we have been slow to admit it, the tariff controversies are irrefutable evidence that what goes on in one country is important to the people of another, and – on a far more localized scale – that the welfare of a textile worker in Lyon is, for better or worse, bound up with the price of butter in Fall River.

When twenty-three nations can sit down at the council table and hammer out a trade agreement covering 45,000 items and over 50 per cent of all international trade, it is an achievement worthy of note. When the agreements are concluded in an atmosphere of mutual satisfaction it is a triumph. Such was the result of the long discussions that terminated in the Geneva Agreements on Tariff and Trade.

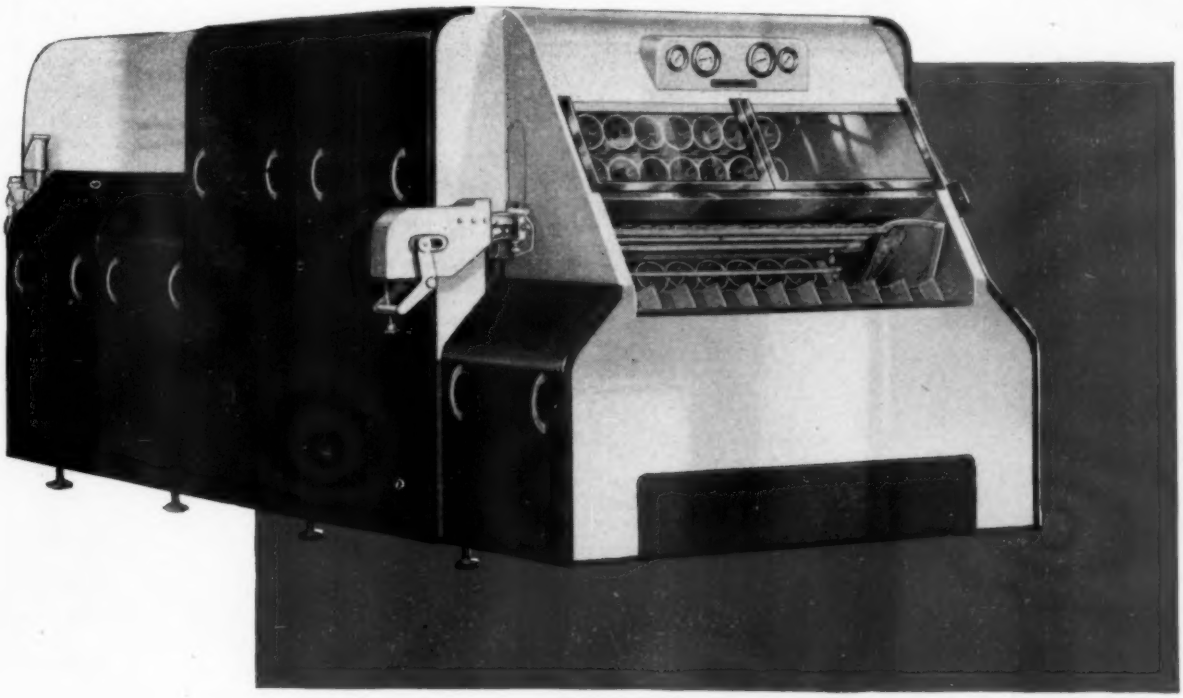
We cannot agree with those in the dairy industry who view the cuts in our duties on dairy products with alarm. We do not believe that the reductions, even in butter, will affect the domestic market in this country any more than a BB gun would affect a General Sherman. Our dairy business is a big industry. It is one of the largest, if not the largest, industry in the world. And do not get the impression that the arrived-at pacts were all give on the part of this country and its dairy field. It reflected horse trading all down the line, and if this nation made concessions it received offsetting concessions in return.

A great deal has been said from time to time about industrial leadership. Perhaps even more has been said about getting government out of business and the bureaucrat out of the marketplace. A lowering of tariffs and the reduction in governmental fetters on international economic intercourse are steps in that direction. If the dairy industry is to take its rightful responsibility of leadership, then it must lead as a part of the whole and not as a self-centered battalion that marches alone.

Along with millions of other men, your editor has seen two wars in thirty years. Your editor has also seen with his own eyes the awful explosion of two atomic bombs. Your editor has, therefore, little patience with those who would cry before they are hurt, – who would sacrifice one of the first concrete measures for international accord on the altar of a fancied ill.



The Cherry-Burrell Model E Soaker Type Washer is made in four sizes — 6, 8, 10 and 12 pockets wide. Assures clean, sterile bottles with the least labor and at the lowest cost.



every field has a leader

. . . and the leader in the field of bottle washers is the Cherry-Burrell Model E Soaker Type Washer. No other bottle washer in its capacity range offers the many advantages of high temperature soaking. The result is unsurpassed washing with a low caustic concentration which reduces the chances for bottle damage and also cuts washing powder needs.

With top performance and economy, the Model E also brings you heavy construction and easy, simple operation that add up to long-lived efficiency. Better get all the details from your Cherry-Burrell representative today, and enjoy the many advantages of a Model E in your plant tomorrow.

CHERRY-BURRELL CORPORATION

General Sales and Executive Office:

427 W. Randolph Street, Chicago 6, Illinois

Milk and Food Plant Equipment and Supplies

FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

GENEVA TRADE AGREEMENTS

Progress Toward Elimination of Trade Restrictions Seen in Twenty-three Nation Pact—Dairy Products Among 45,000 Items Affected by Epoch Making Event

BY NORMAN MYRICK

The tariff is once again a leading subject in the life of this country. Capping months of laborious discussion with a working agreement, the representatives of twenty-three nations affixed their signatures to the The Tariff and Trade Agreements late this fall. After a study of the published documents, interviews with State Department officials, and information secured from press conferences the Review presents the following report.

●

FEW PHASES OF OUR NATIONAL life have played a more dominant role in the development of the United States than the tariff laws. Duties and restrictions in the 18th century were largely responsible for precipitating the American Revolution. Twice within the short space of twenty years foreign trade and tariff controversies threatened to destroy the Union. The famous Hartford Convention in 1814 offered no less than seven amendments to the constitution three of which sought to limit congressional power to declare war and control foreign trade. Indeed, a Boston newspaper declared at that time "A state has the right through its constituted authorities to determine when the federal government has violated the constitution. When so declared, the people of that state are no longer holden to perform their engagements to the national authority".

Tariff of Abominations

The four years from 1828 to 1832 were riven with threats of nullification and secession from the South. Principal object of Southern wrath was the high protectionist tariff of 1828 known as the Tariff of Abominations. When a revision of this tariff, in 1832, was unacceptable to the agriculturalists of the South a legislative convention in South Carolina declared the two acts unconstitutional and forbade the collection of duties. Andrew Jackson, then the President, prepared to collect the duties by force and armed conflict was averted only by the enactment of a Compromise tariff worked out under the leadership of Henry Clay.

Subsequent tariff measures fluctuated between high protectionists tariffs, generally enacted during Republican administrations, and low tariffs which were a part of the philosophy of the Democratic party. In 1922 the Fordney-McCumber Act re-established the high protectionist tariff idea and this concept was carried to its highest point in the history of the nation in 1930 with the enactment of the Hawley-Smoot Tariff. The era of the New Deal saw the protectionist policy modified in favor of the famous reciprocal trade agreements which find their ultimate expression in the 23 nation agreement concluded last fall at Geneva.

A Dynamic Question

The question of high tariff as opposed to low tariff has always been a dynamic thing. Administrations have fallen and sectional differences have been brought close to the boiling point by tariff issues. In the area of foreign relations probably no other single factor has had such an important bearing on the course of history than has this question export and import duties. There are many students of tariff questions who have found in the high tariff of the 20's the seeds tnat ultimately sprouted into the second world war. On the other hand there are the protectionists who argue with considerable justice that our national economy is so geared that protection is necessary if the high standard of American living is to be saved from ruinous competitoin with the lower paid workers of other nations.

International Triumph

On October 30, 1947 twenty-three nations including the United States concluded the most extensive trade agreements ever negotiated. Known as the General Agreement of Tariffs and Trade the instrument extends to barriers and trade controls of all kinds including tariffs, preferences, quotas, internal controls, custom regulations, state trading, and subsidies. The countries signatory to the agreement accounted for approximately three-quarters of the world trade in 1938 and the items affected by the negotiations amount to one-half of all the goods that flow through the channels of international trade. Some 40,000 commodities are involved in the agreements.

Atmosphere of Cooperation

The negotiations, which were carried on in a refreshing atmosphere of international cooperation, provide for schedules of Tariff concessions and general provisions regarding barriers to trade other than tariffs. It is a well known fact that a nation may make tariff concessions until the cows come home but they will not be worth the paper they are printed upon if the nation involved wishes to nullify them by allowing only a specified quantity of certain goods brought into the country or by subsidizing industries connected with the tariff concessions. This was the reason for going beyond tariff concessions and considering trade practices themselves.

The negotiations were carried on more or less bi-laterally, that is between two nations. The United States, for example, selected a series of items of which we are the principal suppliers and the other nations did the same thing. Then countries interested in the particular item in question discussed the problem with the United States or whichever nation happened to be chiefly concerned with the particular commodity. Out of 120 possible pairs of negotiations 108, a remarkably high percentage, took place.

Most Favored Nation Eliminated

Although the negotiations were conducted on this bi-lateral basis the agreements reached are binding upon all parties to the agreements. This means that agreements reached between any two nations are extended to all other nations. For example, in the negotiations between the United States and India, the duty free status of dried skim milk is permanently established and duties on condensed and other preserved milk products are reduced from 30% ad valorum to 25% ad valorum. Although the nego-

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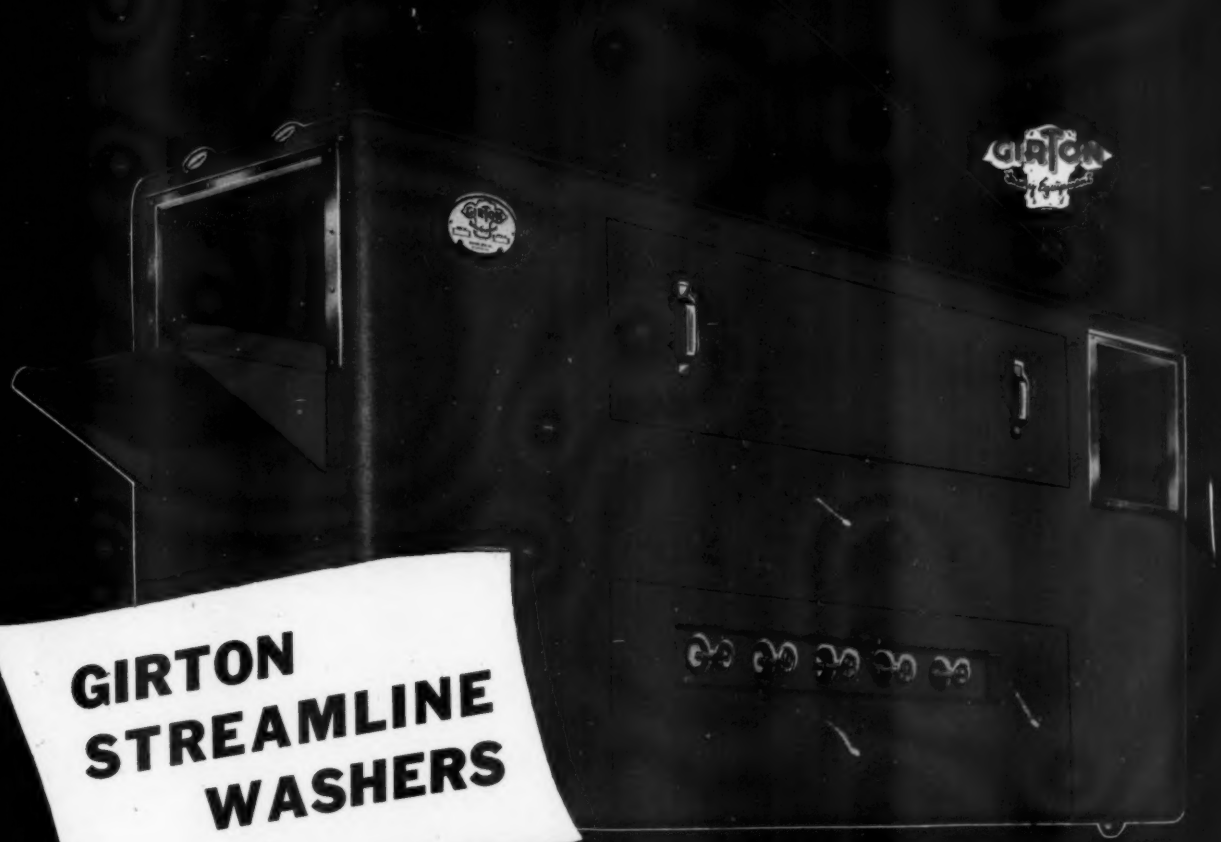


GIRTON STREAMLINE WASHERS

MODEL 474—Straightline washer with double jet plates. Will wash a case of bottles every 30 seconds. Steam or chlorine sterilization.

Here is the new line of Girton Pressure Washers . . . the established favorites. Fine engineering skill has streamlined the exterior for beauty and added many improvements to the interior for more efficient and economical operation. Investigate its possibilities for improving your dairy production. Write for bulletin.

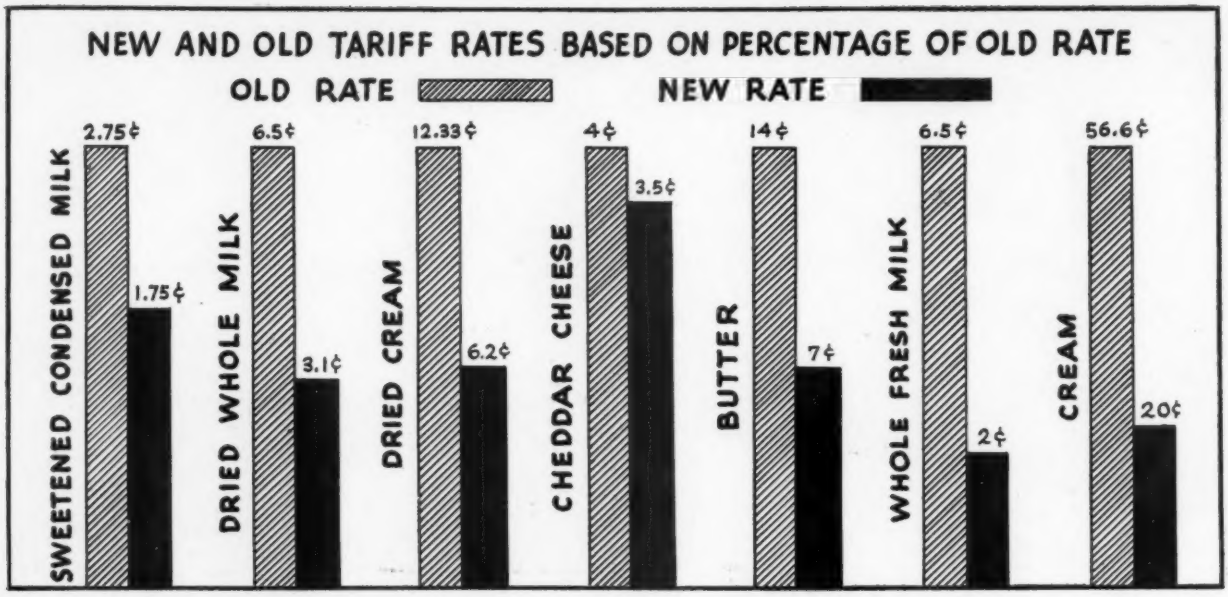
GIRTON MANUFACTURING CO.

MILLVILLE • PENNSYLVANIA

Plant-Tested Equipment for the Modern Dairy

MODEL 473—3 Compartment type—will wash a case of bottles every minute. Steam or chlorine sterilization.

MODEL 472S—Inexpensive 2 Compartment type. Steam sterilization only.



tiations were between India and the United States any other country exporting dried skim to India will enjoy the same duty free status.

All concessions made by the United States were formulated within the limits and according to the procedures specified by the Trade Agreements Act and Executive Order No. 9832 of February 25, 1947. As required by the executive order, the General Agreement provides that if, through unforeseen developments, a particular tariff reduction should increase imports so sharply as to cause or threaten serious injury to domestic producers the country granting the concession may withdraw or modify it in whole or in part. If the concession is modified or withdrawn other interested countries may withdraw or modify substantially equivalent concessions.

Attack Trade Barriers

The general provisions of the agreement covers the entire area of trade between the contracting parties. This is a milestone in international relations and marks the first time that a generally accepted code of fair treatment in commercial relations has been established. All of the bewildering maze of irritating discriminations, internal charges and restrictions, quotas and exchange controls that have hampered trade between nations for centuries are covered in the agreement.

The agreement and its schedules of tariff concessions was put into effect provisionally on January 1, 1948 by Australia, the Belgium-Netherlands-Luxemburg Customs Union, Canada, France, the United Kingdom, and the United States. Other participating countries will comply with the agreements as soon as they can take the proper measures as required by their constitutions. The necessary legal formalities covering the United States application of the trade agreements to its foreign trade will be met by presidential proclamation. The entire instrument does not become binding, however, until negotiating countries, making up 85% of the trade of those involved in the agreements, deposit acceptances with Secretary-General of the United Nations.

Little Difference to Dairy Industry

As far as the dairy industry is concerned the agreements will probably not make a great deal of difference. Contrary to some outspoken opinion the agreements will not "knock the props from under the American Dairy Farmer". It is doubtful that the dairy farmers of the nation will even know that the agreements have been effected unless they read about them. The nature of the chief dairy product, fluid milk, is such that it does not lend itself to widespread exploitation in foreign trade channels. It is, however, covered in the agreements as follows:

> Whole milk, fresh or sour has a duty of 2 cents per gallon *provided* that the total quantity of whole milk brought into the country in any calendar year does not exceed 3,000,000 gallons. Any additional milk will be dutiable at 6½ cents per gallon.

The 3,000,000 gallons mentioned in the agreement are roughly equivalent to 25% of one days supply of fluid milk in this country. Anything above this amount enters the country subject a duty of 1½c plus per quart.

Cream is dutiable at a straight 20 cents per gallon or approximately $2.40 per hundred weight up to 1,500,000 gallons in one year. Additional cream is subjected to a duty of 56.6 cents per gallon or approximately $6.80 a hundred weight.

Import and Export Figures

Skimmed milk, fresh or sour, and buttermilk are admitted at 1½ cents per gallon while dried whole milk is admitted for 3.1 cents per pound, dried cream at 6.2 cents per lb., and dried skim and dried buttermilk at 1½ cents per lb.

Under the new trade agreement the tariff rate on unsweetened condensed milk in air tight containers was reduced from 1.8 cents per lb. to 1 cent per lb., from 2.75 cents per lb. on sweetened condensed milk in airtight containers to 1.75 cents per lb., and from 2.53 cents per lb. on all other condensed and evaporated milk.

The domestic production of all unsweetened condensed milk, amounted to 2.5 billion lbs. in 1939 of which 2.2 billion lbs. were unskimmed case goods. By 1945 this total production amounted to 4.4 billion lbs. but declined in 1946 to 3.6 billion lbs., of which 3 billion was unskimmed case goods. This total increased to 740 million lbs. in 1945 and to 1,004 million lbs. in 1946. The major part of this production is sweetened condensed skim milk which amounted to 815 million lbs. in 1946, a sharp increase over 1945.

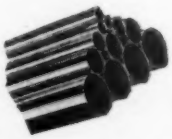
Imports From 1936-1947

Imports in all three categories combined amounted to 2 million lbs. a year from 1936-1947. In 1946 imports of all three classes combined totaled only 2,300 lbs. Since 1938 there have been no imports in the bulk.

Exports, which amounted to about 30

for Superior sanitation

"a few of dozens of units carried in stock"



Here's your reference book. *Here is a complete catalog including dimensions and other data on the whole line of Cherry-Burrell valves fittings and tubing. A valuable reference for every plant operator. Ask your Cherry-Burrell man for Bulletin G-443 or write to the address below.*

stainless steel valves, fittings and tubing by Cherry-Burrell

Here is a complete line of sanitary stainless steel fittings and valves—made by men who long have been experts at prescribing and building equipment to meet the sanitation demands of milk and food plant operators and health officials. Cherry-Burrell stainless steel fittings and valves are flavor-free under practically all conditions, hard and non-corrosive, absolutely stainless under most food acid conditions—and extra long-lived even in the face of abrasion and wear. Even the valve plugs are made of 18-8 stainless steel. Meet latest 3-A Standards.

Cherry-Burrell stainless steel tubing is polished to a mirror-finish inside and out. Welds are strong enough to withstand the most severe food processing operations. The finish is fully protected in shipment and storage by a heavy straw board cover. Get in the habit of making your Cherry-Burrell Branch or Associate Distributor your source for all of your stainless steel accessories requirements. Delivery is prompt—most items are carried in stock.

CHERRY-BURRELL CORPORATION

General Sales and Executive Office:
427 W. Randolph Street, Chicago 6, Ill.
Milk and Food Plant Equipment and Supplies

FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

million lbs. for both sweetened and unsweetened in the immediate prewar period, increased very sharply during the war, and have continued to increase, amounting to about 1,017 million lbs. in 1946, of which about 9/10 was evaporated milk.

Domestic Production Figures

The tariff rate for dried whole milk was reduced from 6½ cents per lb. to 3.1 cents per lb., that for dried cream from 12.33 cents per lb. to 6.2 cents, and that for dried skim milk from 3 cents to 1.5 cents per lb. The rate of 1.5 cents per lb. for dried buttermilk was bound in the present agreement.

Domestic production of dried whole milk increased from about 20 million lbs. per year before the war to 218 million lbs. on 1945, but declined to 188 million lbs. in 1946. Imports have always been small and in 1946 amounted to 297 lbs. Exports ranged from 2 to 6 million lbs. per year immediately before the war and amounted to 146 million lbs. in 1946.

Domestic production of dried skim milk increased from about 300 million lbs. a year before the war to 653 million lbs. in 1946. Imports have been small and irregular. Exports were small before the war but amounted to 237 million lbs. in 1943 and 168 million lbs. in 1946.

The production of dried buttermilk amounted to 62 million lbs. in 1939 but declined during the war and post war period to 38 million lbs. Exports are not separately reported. Imports have been nil for several years, except for entries amounting to about 50,000 lbs. in 1945.

Domestic production of dried cream amounted to 49,000 lbs. in 1939 but increased sharply to a record production of 567,000 lbs. in 1946. Exports are not separately reported and imports are nil.

Duty on Cheese Reduced

In the new agreement the duty on Cheddar cheese is reduced from 4 cents a lb. but not less than 25% ad valorum to 3¾ cents per lb. but not less than 17% ad valorum on cheddar net further processed than by division into pieces.

The domestic production of Cheddar cheese has been increasing for many years and reached a peak in 1945 to 878 million lbs.

Imports were not in sufficient volume before the war and became even smaller during the emergency. In 1946 dutiable imports amounted to only 20,000 lbs.

Exports which are normally less than 2 million lbs. a year increased to 58 million lbs. in 1943 due to war time demands; in 1946 exports amounted to 82 million lbs.

Butter Schedule Controversial

Perhaps the most controversial item on the dairy products list was butter. According to the agreement, butter, when entered during the period from November 1 in any year to the following March 31, a five months period, is dutiable at 7 cents per lb. *provided* that not more than 50 million lbs. are brought in during that period. Any additional butter brought in, whether in the five month period or not, is dutiable at 14 cents per pound.

The five month period represents the traditional short period in United States milk supply and the reduced rate will probably attract some butter into the country. To an industry that annually handles some 2 billion lbs. the impact of the new arrangement will be hardly noticeable.

Domestic production in general keeps pace with increases in population. However, during the war the demand for milk for all purposes resulted in sharp decreases in total butter production and in 1946 only 1.5 billion lbs. were produced. A decrease of 32% from 1939 production. Imports of butter have been irregular and usually around 1 million lbs. a year except during periods when there has been a wide spread between wholesale prices in New York and London. This occurred in the years 1935-37 when, as a result of droughts in the United States prices were strong in New York while unusually low in London and imports averaged 14,000,000 a year. Dutiable imports amounted to 19 million in 1942, but declined sharply thereafter and in 1946 amounted to 99,000 lbs. Normal exports are relatively unimportant, about the volume of normal imports.

People Are Really There

Under the weighty statistics that specify what is to be in realm of international trade one can find revealed the lights and shadows of national economies. India reduced the duty on condensed from 30% ad valorum to 25% ad valorum. Well might one ask why India, a land of meagre fare at best, should place such a high duty on an essential food. Why not put milk on the free list? The answer is simply that the average Indian is so poor that even though the milk was placed on the free list he could not purchase any. The commodity is within the reach of the well to to do or reasonably well to do

Dairy Daze

By Edgar Allen, Jr.

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Free TO YOUR MILK PRODUCERS WHO BUY THIS 3-PACKAGE UNIT OF DUBL-CHEM-FACED FILTER DISCS

Here's a practical premium your milk producers will appreciate for its convenience and permanent usefulness . . . it's just what dairy farmers long have needed in barn and milk-house, to keep filter discs "high and dry", in a convenient, sanitary place.

You, too, will appreciate these advantages: The 3-package unit cuts your costs of handling filter discs, since the 3 packages (300 filter discs) and the DISC-DECK are all banded together as one unit . . . just as easy to handle as a single package of only 100 filter discs.

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YOUR MILK PRODUCERS KNOW *Perfection* DUBL-CHEM-FACED TRADE MARK MILK FILTER DISCS *are Highest Quality At Low Cost!*

SAVE MONEY AT EVERY MILKING

QUALITY PROVED BY MILLIONS IN USE

See that your producers use this modern, top-quality, double-faced milk filter disc . . . BOTH SIDES toughly faced for extra strength, to resist matting, clogging, "channeling", or rupture. Their extra-long fibre cotton centers are specially processed to filter more milk, more thoroughly and rapidly. Easier to use . . . can't be put into strainer incorrectly . . . either side can be UP. Your producers get the best in DUBL-CHEM-FACED Filter Discs, protect their milk quality, and SAVE MONEY AT EVERY MILKING. Quality proved by millions in use!

HELP YOUR PRODUCERS *"Sanitize"* IN EVERY POSSIBLE WAY

If your present source of supply is not prepared to furnish you with this *Free Deal*, write at once, giving your supplier's name and address to:

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that comprise 2-3% of the immense Indian population. Condensed milk is, therefore, considered as a luxury and taxed for the revenue that it will yield. According to authorities on India the average income of the Indian is sixty dollars a year.

Provisions for Adjustment

Any comprehensive meeting of minds such as this agreement on tariffs and trade, whether between nations or individuals is liable to alteration and change as the contracting parties work into the harness. The fabricators of this arrangement wisely left the way open for easy and systematic revision. Article 28 provides that "any contracting party may, by negotiation and agreement with any other contracting party with which such treatment was initially negotiated and subject to consultation with such other contracting parties as the CONTRACTING PARTIES determine to have a substantial interest in such treatment, modify, or cease to apply, the treatment which it has agreed to accord under article II to any product described in the appropriate schedule annexed to this agreement."

This provision means that any nation dissatisfied with the agreement is free to discuss the problem with the nation with which it negotiated the original provisions and by mutual consent withdraw the concessions granted. For example, the United Kingdom bound the rate and reduced the margin of preference on imported milk foods. The United States, as the chief supplier, was the other party to the negotiations. If, as time progresses, the United Kingdom finds this arrangement unsatisfactory she is perfectly free to enter into discussion with the United States and through negotiation terminate the concessions.

Redress Through Tariff Commission

Any industry or part of an industry in the United States that feels itself injured under the agreements may seek to have the situation corrected through the United States Tariff Commission. The procedure is set forth in the Amendment of Rules of Practice and Procedure under Part I of Executive Order 9832 respecting Trade Agreements. The purpose of this amendment is to determine whether . . . "such article is being imported in such increased quantities and under such conditions as to cause or threaten serious injury to domestic producers of like or similar articles."

Procedure consists of an application in which information substantiating the contention is made. This information may be confidential if the applicant so desires. If the information in the application warrants, a hearing is held by the tariff commission at which time arguments pro and con may be presented. If the Commission finds that the request for redress is justified it will submit a report to the President who, under Trade Agreements Act of 1943, is authorized "to increase duties and impose restrictions as are required or appropriate to carry out foreign trade agreements." If the Commission finds the alleged injury without foundation or insignificant, notice of the dismissal of the investigation will be published in the same manner as notice of the hearing, namely; in public notices posted in Washington and New York, in the Treasury Decisions and the Federal Register, in the press, and in Trade Association publications.

Watch Out For Toes

Undoubtedly there will be some toes that will feel the weight of this agreement and will be justified in securing alteration. Obviously no single individual or group of individuals should be made to bear the burden of an action conceived for the general welfare. Undoubtedly too, there will be toes scarcely bruised that will call upon the Gods to witness the persecution they suffer. These are the accepted corns in any March of progress.

But these blemishes on the feet of international concord cannot hide the dynamic fact that twenty-three sovereign powers entered into a voluntary agreement that required give and take from all participants; that in a world torn with war and the rumors of war the great powers of the world reached the most sweeping agreement in history on a pregnant source of international irritation. It cannot hide the fact that here is a ray of light in a dark world. Beside this triumph whatever temporary inconveniences the agreement may cause become the absurdly low cost of a great hope for the future of mankind.

●

WEEKLY FIGURES ON CONDENSED

Weekly production figures for all types of bulk condensed milk is the goal of a new program inaugurated by the American Bulk Condensed Milk Association.

Present production reports on bulk condensed reach are on a monthly basis and reach the industry about thirty days after the close of each month. In order to provide more up to date information the ABCA has instituted its plan of weekly reports.

The figures will be compiled from reports sent in by members of the Association. The report to the industry will show the total production of all cooperating condensaries for the past week as compared to the previous week. After one year's operation the report will include comparative figures for the corresponding week in the previous year. Inventories reported will include stocks of both sweetened condensed whole milk and skim milk on hand in plant and stored in public warehouses. Production figures will cover all types of bulk condensed milk.

●

JOINS CATTARAUGUS FIRM

Walter Winkey, for many years active in the dairy equipment business, has been appointed to the sales staff of the Purity

WALTER WINKEY

Manufacturing Company of Cattaraugus, New York, manufacturers of dairy processing equipment.

Mr. Winkey was formerly associated with the firm of Oakes and Burger, also of Cattaraugus, distributors of Purity products. His special assignment will be to assist Oakes and Burger in the sale of Purity products nationally to jobbers.

●

R. M. BODE APPOINTED

Richard M. Bode, until recently Assistant Sales Manager for Tri-Clover Machine Company of Kenosha, Wisconsin has been named to the position of Sales Manager. The appointment fills the vacancy created by the recent resignation of George N. Sery who held the position since 1934.

Mr. Bode has been with Tri-Clover for more than eight years except for a period of 46 months spent in the army where he held the rank of First Lieutenant. Prior to his service career Mr. Bode was Production Manager, having come up "through the ranks" of several company departments.

Mr. Sery, who was forced to resign from his usual participation in company affairs because of ill health, will continue his affiliations by handling Tri-Clover sales representative duties for the entire West Coast.

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BOSTON'S NEW PRICE FORMULA

A Departure from the Traditional Manufactured Dairy Product Index Is an Outstanding Feature of a New Pricing System Developed in the Hub

WHEN SOMETHING HAPPENS in Boston that causes a ripple in the wilderness beyond Dedham it is a good idea to sit up and listen. The chances are you may learn a thing or two. There was the Boston Tea Party, for example, and Bunker Hill and the Marshall Plan. This time, Boston, long time Hub of the Universe and pistils, stamens, leaves and roots of New England's flower, has dug deep into its intellectual soil and come up with a new price formula for Class I milk. Presumably the formula will not bring the Red Coats swarming down upon the city but it most certainly will be the source of much debate around the council fires of the dairy industry.

Developed by Committee

The new formula, the result of nearly a years study by a committee of agricultural economists, has left the time honored dairy manufactured products index, that served as a jumping off place in the past, and brought in whole new set of factors. The proposal operates as follows: take the index of all wholesale prices in the United States, the index of department store sales in New England, the grain labor index, add them all together, divide by three and you have the formula index.

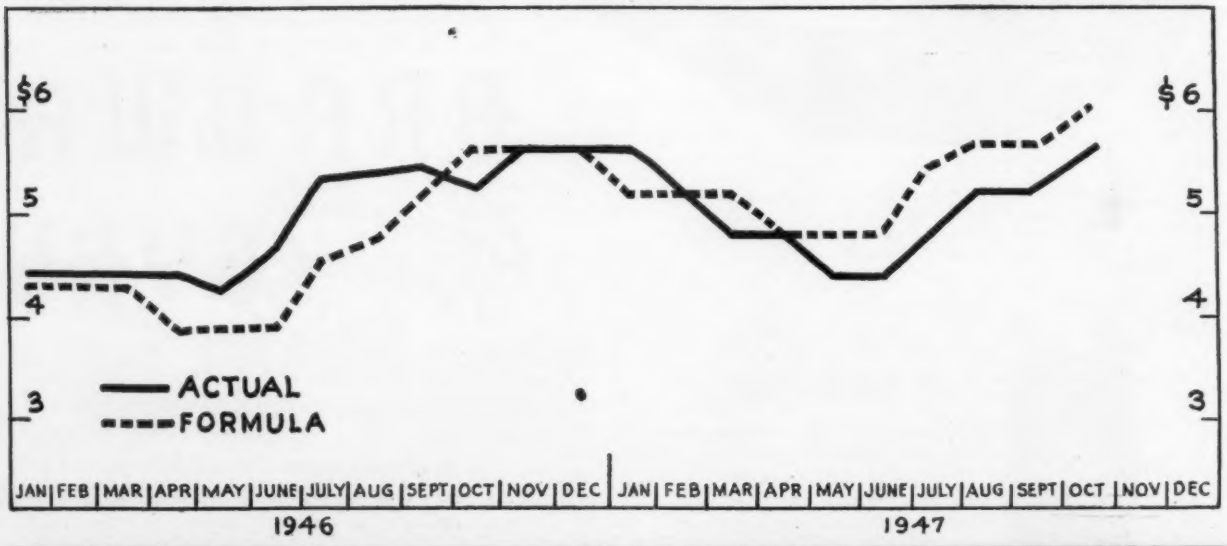
In spite of the frightening character of its ingredients the formula, if you happen to be formula minded, is a pretty good one. It started in April 1947 when Richard D. Aplin, Acting Market Administrator, invited a group of New England milk economists to make a study of how best to establish Class I prices in the Boston market. The Committee, which came to be known as the Boston Milkshed Price Committee, was composed of Dr. Thurston Adams, University of Vermont, Dr. John D. Black, Harvard University, Mr. Wesley H. Bronson, Whiting Milk Company, Dr. George F. Dow, Maine Agricultural Experiment Station, Mr. James D. Lee, Boston Federal Milk Market Administrator's Office, Dr. Alan MacLeod, late Secretary of the New England Research Council on Marketing and Food Supply, Mr. Chester W. Smith, Director of Cooperative Dairy Economic-cooperatives, Dr. C. W. Swonger, New England Milk Producer's Association, and Mr. William C. Weldon, H. P. Hood and Sons, Inc. Mr. Fayette Branch, University of Massachusetts and Mr. William Bredo, University of New Hampshire served on a sub-committee on costs of dairy farming.

The committee was born as a result of wide spread dissatisfaction with the butter-powder formula. The swift course of economic events during 1946 outstripped price adjustments under the old formula and on numerous occasions the Secretary of Agriculture had resorted to the "suspension process" in adjusting prices. Such activity had been severely criticized. The issue came to a head in March 1947 at a public hearing for amendments to Order No. 4. At that time it was suggested that a careful investigation be made of the possibility of developing a Class I price formula based on the historical relationship between milk prices and certain other pricing factors. Among the factors suggested as worthy of inclusion in the new formula was a measure of consumer income. This accounts for the Department Store Sales index.

Old Formula Unsatisfactory

The old butter-powder formula, wherein Class I prices were based on an index of the prices of those two commodities, found little favor with the committee. When OPA controls were lifted and the general level of prices went up the formula lagged behind. When, in December of 1946, the formula indicated a downward readjustment of Class I prices the formula was suspended and continued to be suspended every month following. To be quite blunt about the whole thing the formula didn't shove Class I prices up fast enough to suit

ACTUAL AND RECOMMENDED CLASS I PRICE IN THE 201-210 MILE ZONE OF THE BOSTON MILK SHED

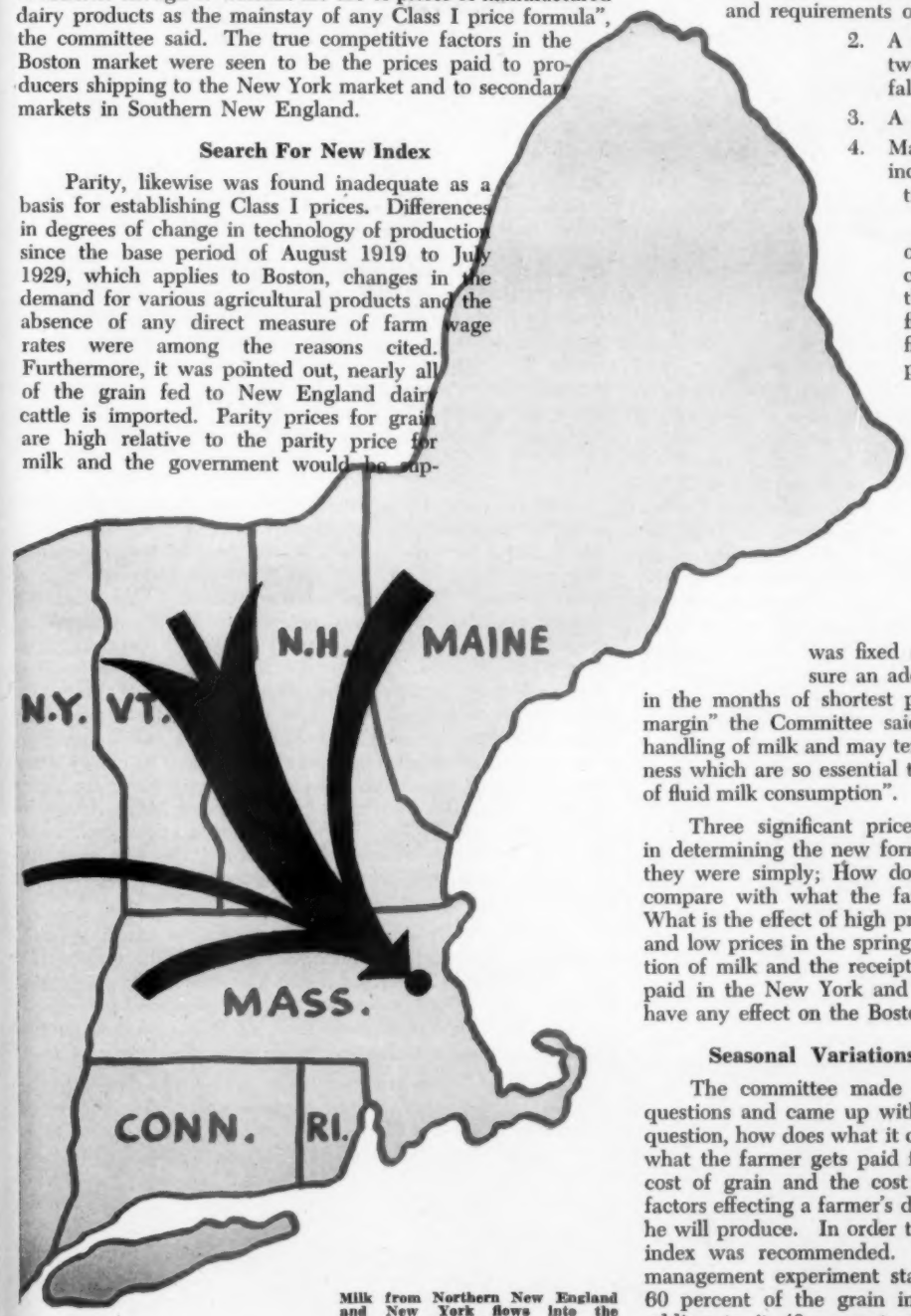


producers and what's more the durn thing would sometimes go down. When it did go down it wasn't a good formula. Perhaps a good formula is not supposed to go down. On the other hand perhaps the committee has something when it said, just the least bit caustically, "A sound practical formula should be allowed to function when prices are declining as well as when they are rising; that the industry, particularly the producers should understand what the formula involves and what it means; and that such groups should have faith in, and respect for, the formula".

The committee found little to justify continuing the butter-powder index. "The supply competition between fluid milk and manufactured dairy products is certainly not close enough or realistic enough to warrant the use of prices of manufactured dairy products as the mainstay of any Class I price formula", the committee said. The true competitive factors in the Boston market were seen to be the prices paid to producers shipping to the New York market and to secondary markets in Southern New England.

Search For New Index

Parity, likewise was found inadequate as a basis for establishing Class I prices. Differences in degrees of change in technology of production since the base period of August 1919 to July 1929, which applies to Boston, changes in the demand for various agricultural products and the absence of any direct measure of farm wage rates were among the reasons cited. Furthermore, it was pointed out, nearly all of the grain fed to New England dairy cattle is imported. Parity prices for grain are high relative to the parity price for milk and the government would be supporting a large element in the cost of milk production in New England.



Milk from Northern New England and New York flows into the Boston market.

Abandoning the butter-powder formula and disregarding the idea of parity as a base for Class I pricing the Committee embarked on its search for a new index. One of the first items of business that the committee completed was to state the objectives of a Class I milk pricing program. The Class I pricing method, the Committee declared, should be as simple as possible, should be easy for the producer to understand, and should provide for as much advance notice as possible on what the Class I price is likely to be. In addition to these general rules the group laid down four specific guide lines.

1. A balance between receipts of milk from the producer and requirements of the market for fluid milk sales.
2. A reduction in the wide spread between flush spring production and fall famine.
3. A stable market.
4. Maintenance of producer prices and incomes at a satisfactory level relative to general economic conditions.

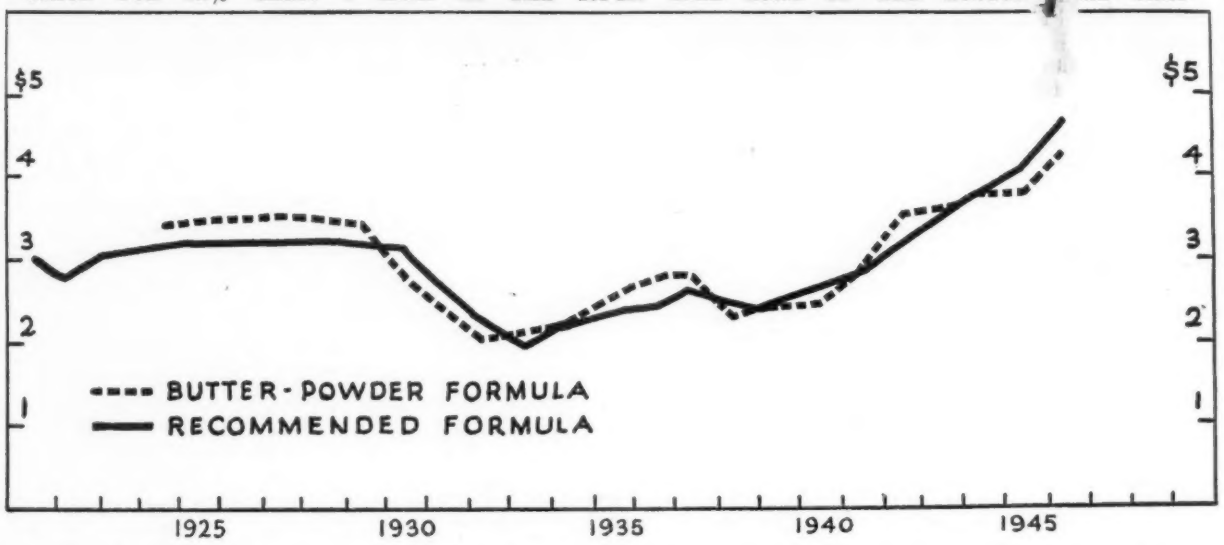
The committee report points out that a balance between receipts of milk from producers and the requirements of the market for fluid sales should be one of the first achievements of a sound pricing program. The price should not be so high that producers furnish more milk than the fluid market can handle and thus make the market top-heavy with Class II milk nor should prices be so low as to curtail production and create a shortage. A reserve of Class II milk equal to 15 per cent of total receipts in the shortest month was fixed as the minimum necessary to insure an adequate supply of milk at all times in the months of shortest production. Efforts to reduce the margin" the Committee said "tend to prejudice the efficient handling of milk and may tend to jeopardize quality and freshness which are so essential to the maintenance of a high level of fluid milk consumption".

Three significant price-supply relationships were noted in determining the new formula. Translated into the vulgate they were simply; How does what it costs to produce milk compare with what the farmer gets paid for it? Secondly, What is the effect of high prices in the fall when milk is scarce and low prices in the spring when milk is flush on the production of milk and the receipts in the market? Third; Do prices paid in the New York and secondary New England markets have any effect on the Boston Market?

Seasonal Variations, Costs and Competition

The committee made a thorough study of these three questions and came up with plausible answers. To the first question, how does what it costs to produce milk compare with what the farmer gets paid for it, the committee said that the cost of grain and the cost of labor are the most important factors effecting a farmer's decision concerning how much milk he will produce. In order to measure this factor a grain-labor index was recommended. This index, developed by farm management experiment station men, is calculated by taking 60 percent of the grain index in the Boston milkshed and adding to it 40 percent of the average farm wage of the

COMPARISON OF TRENDS IN RECOMMENDED FORMULA PRICE WITH TRENDS IN B. — POWDER PRICE FOR 3.7% CLASS I MILK IN THE 201-210 MILE ZONE OF THE BOSTO LK SHED



Boston Milk shed. The data necessary to compute this index can be secured from various public reports.

To the second question, what is the effect of lowering and raising prices on the seasonal variation in production, the committee declared "A sound Class I pricing program, therefore, should offer a definite and tangible incentive to farmers to produce in the fall months a larger proportion of their annual output." In other words pay 'em more in the fall and less in the spring and you will reduce the production spread. A reasonable conclusion. The group recommended that the blended price be 40 per cent higher in November and December, the short months, than the blended price in May and June, the flush months. Under current conditions this would figure out to be a difference of 88 cents a hundred weight. If, however, prices went down, the 88 cents would be reduced so that the 40 per cent ratio would be maintained. Because of the delay in payments to producers the committee suggests that the increase or decrease in prices should be made slightly before the beginning and end of each pasture season.

The third question, the question of the influence of New York and secondary New England market prices to producers is dismissed as deserving a separate study and also because these markets would probably follow the same pricing system as Boston. The issue would cease to be a factor. For example, if the new formula put Boston prices above New York prices it would tend to draw New York producers into the Boston market which would probably result in New York adopting the same price and the same system in order to maintain adequate supplies.

Measure of General Economic Conditions

One of the fundamental objectives in any price control program for agriculture is to bring the prices farmers receive for the products he sells into the proper relationship with the prices that he pays for things that he buys. Parity is one way in which this is done. The Boston Milkshed Price Committee did not feel that parity was an acceptable method as far as fluid milk was concerned. Yet "milk price in any market must be closely related to changes in general economic conditions as well as to changes in particular local conditions affecting the production and consumption of milk" they said. In order to have some gauge or standard for determining the proper relationship an index was necessary. The index selected was the over-all index of wholesale prices. The committee pointed out, however, that no matter how sound and how logical a formula may appear at the time of its creation it is necessary to examine it from time to time in the light of changes in the technology of milk production as they are related to changes in other lines of production. What this wholesale price index really does is to act as a barometer of economic conditions. The thing that the economists were seeking was some means of knowing, at the time it occurs, when general economic conditions are changing. They did not wish to be continually locking the door after the horse was stolen.

Enter the Consumer

There have been small voices crying in the wilderness that the consumer should also be considered in developing a price formula. The Boston committee concurred. The committee found that the war-time increase in consumer income, the lag in the rise of milk prices, and the scarcity of other foods was responsible for the general increase in milk consumption during the past five or six years in a 60-20-20 ratio. By far the most important factor was increased income. The committee also reported that milk price increases reduced consumption to a greater degree than higher incomes increased consumption. As a casual aside, an observer cannot but be aware of the sentiment in the industry at present that consumers can afford to pay more for dairy products while the consumers (Why Boycott Milk? *American Milk Review*, November 1947) talk about fabulous profits and starving children. There is no escaping the fact that the consumer is a factor. There are those who even suggest that he ought to have a voice in determining milk prices.

Aware of the place of the consumer in the scheme of milk economics some device to measure his part in the price structure was necessary. An index of department store prices was recommended. This index, for New England stores, is compiled by the Federal Reserve Bank of Boston and is readily available. This index is used to measure the demand factor.

The three elements that finally go into making up the new formula are the wholesale price index, the grain-labor index, and the index of department store sales in New England. It becomes a matter of taking each index for the base period which is 1925-1929, i.e. a normal period, adding them together and dividing by 3. The quotient is the formula index.

Two conditioning processes were added to the formula. One is the increase or decrease in spring and fall prices to bring about the 40 per cent difference designed to correct

(Please Turn to Page 37)

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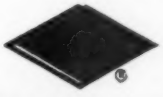

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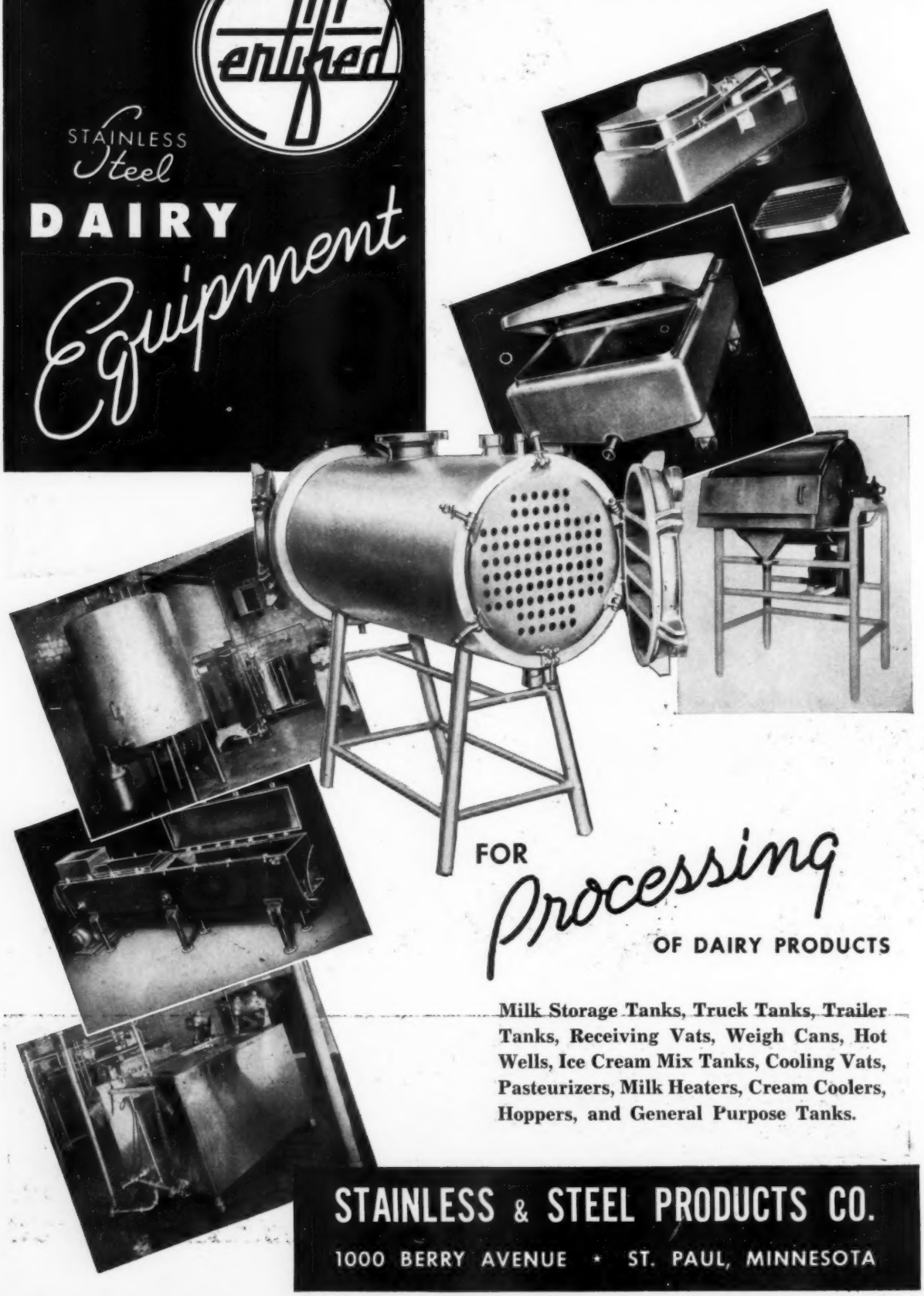

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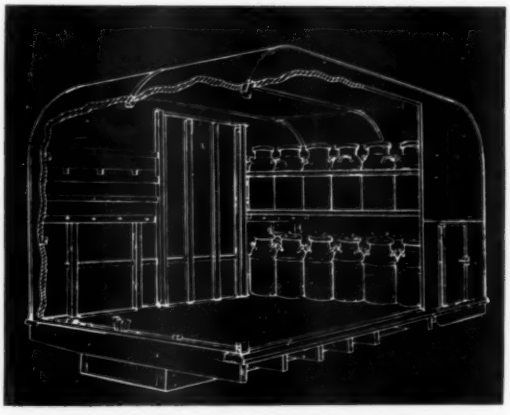

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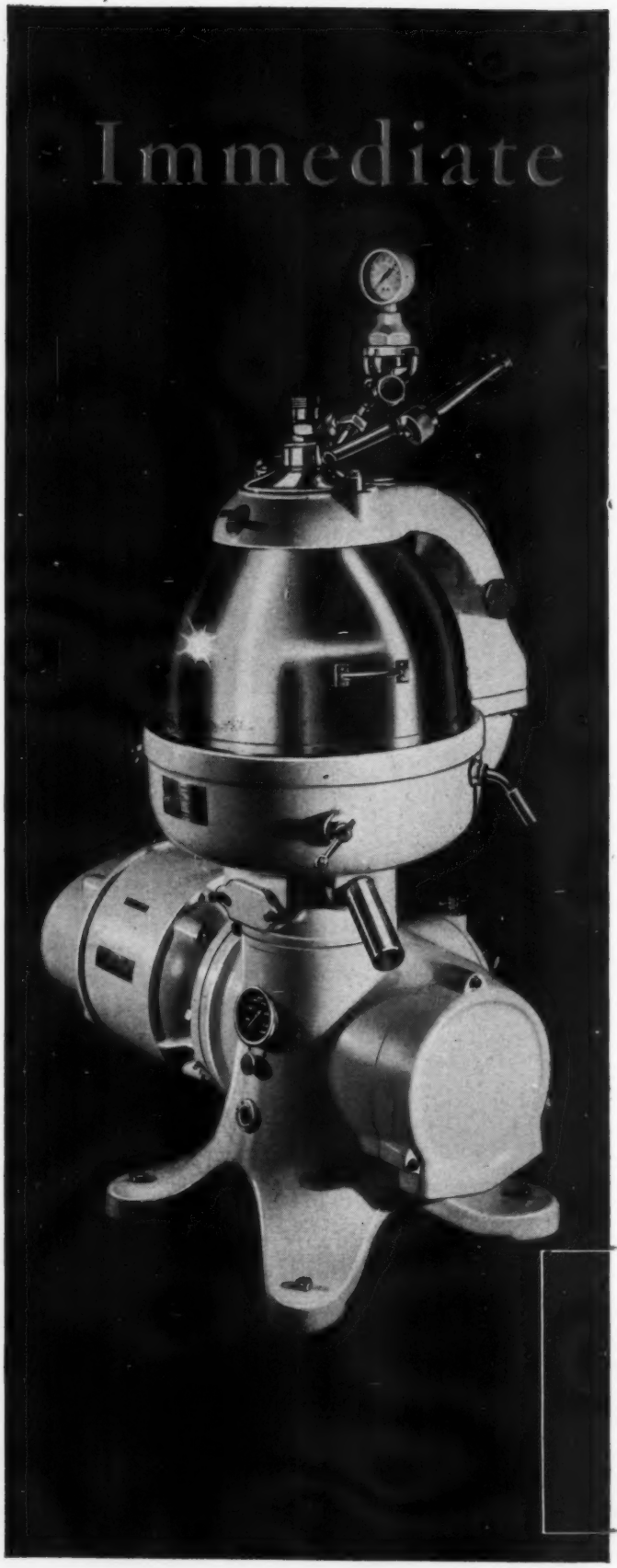


Your new Columbia-Westfalia Model MDD-5004 Separator, 11,000 lbs. per hr. capacity, can be shipped *at once*. Increased production now matches heavy demand.

There's good reason for the sustained preference for this, the *original* "No Foam" separator. No other separator offers so many advantages.

NO POSITIVE PUMPS REQUIRED — The Columbia-Westfalia Separator may be fed by gravity or by a centrifugal pump, yet discharges both cream and skim under pressure. This means an initial saving up to $600 — plus lower maintenance expense.

GASKET REPLACEMENTS SHARPLY CUT — Absence of rubbing seals cuts gasket replacement costs as much as 95% — saves $80 to $280 or more per year per machine.

MORE EFFICIENT . . . MORE DURABLE — Automatic Automatic lubrication, ball bearings, stainless steel bowl, balanced gears and spindle insure efficient operation, long service.

For prices and complete information, write Columbia-Westfalia Centrifuge, Inc., Crystal Park, Canton 5, Ohio.

***NOW AVAILABLE** — Model RDE-5004 Milk Clarifier, 22,000 lbs. per hr. capacity. Write for complete information.*

Columbia
Westfalia
SEPARATORS • CLARIFIERS

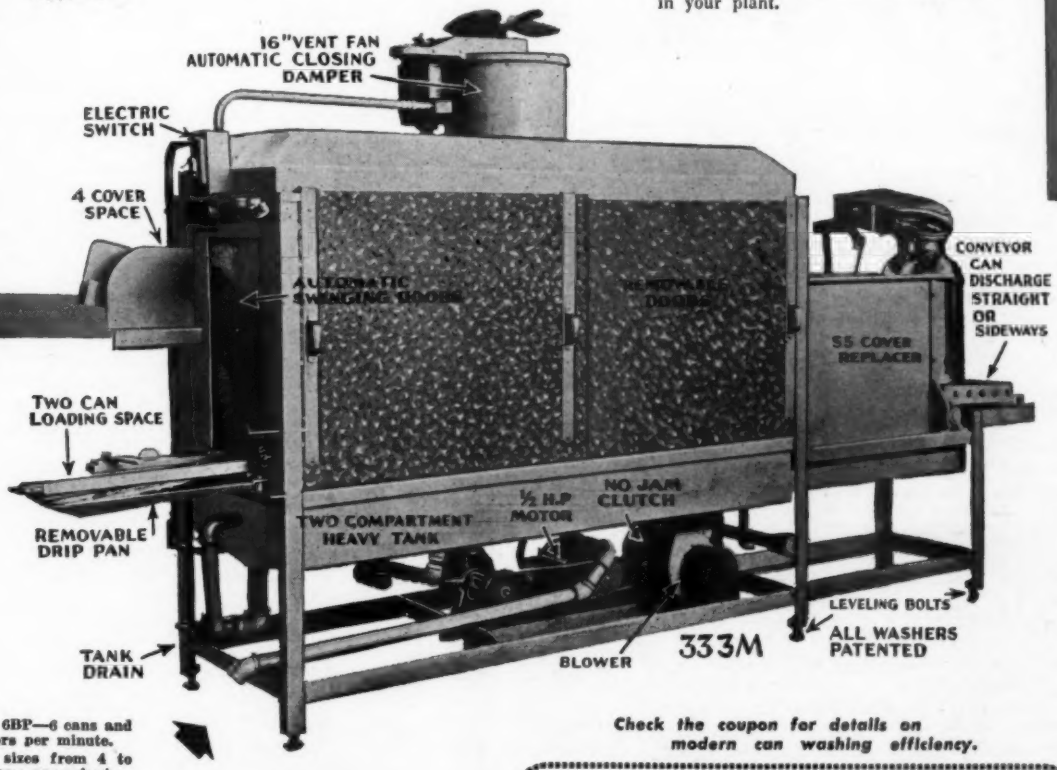
Your First Safeguard of Milk Quality is CLEANER, BONE-DRY Milk Cans

... Possible Only With

DAMROW Can Washers and exclusive COLD AIR DRYING

The cans you return to your patrons may protect — or harm — the quality of milk you receive. You can be SURE of *protection* if you use a DAMROW Straightline Washer. For in a DAMROW, with its multi-stage washing action, your cans are washed more thoroughly in the first place; then they are *cold air dried* to prevent sweating — and the development of rust, black spots and bacteria so harmful to milk before it reaches you.

You'll be able to speed up your receiving, too, with a DAMROW, for you'll find any DAMROW Washer equal to others *rated two cans higher* in capacity. Let us show you why this is so — and tell you also about the many exclusive features that save power, water and labor on this vital operation in your plant.



Model 6BP—6 cans and covers per minute. Other sizes from 4 to 14 cans per minute.

Check the coupon for details on modern can washing efficiency.

DAMROW

COMPLETE EQUIPMENT FOR THE DAIRY INDUSTRY

Damrow Bros. Company

204 Western Avenue, Fond du Lac, Wisconsin

Please send us complete information on Damrow Can Washing. Our capacity — about ..... cans and covers per minute.

Firm .....

Address .....

City ..... State .....

Bos Taurus Primigenius

A Brief History

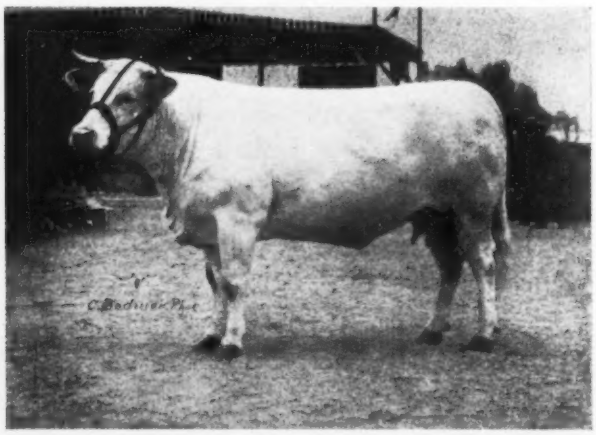
of the

Dairy Cow, Foster of Mankind

Standing in the shadow of a peak famous the world over as a symbol of Switzerland is this Brown Swiss heifer. Simmentals and Fribourgs are other native Swiss cattle.

THIS IS NOT a practical article. There is little in it that will tell how to produce a better quart of milk or enable you to make one dollar do where two were required before. It is simply a story of the cattle that furnish the substance from which we draw our livelihood. We are inclined to look upon them as instruments for the production of so much butterfat of a certain quantity of solids non-fat or the consumers of a particular blend of grass and the seeds of grass. From a practical point of view the cow is the world's best machine for converting roughage which men cannot eat into milk which they can. But this is not a practical article. This is an article that seeks to put into words the wonder of the great industry that spreads in a vast, magnificent labyrinth from the homely udder of the dairy cow to the ends of the earth.

Wherever the sun shines, somebody is milking a cow. If you are in a hair splitting mood perhaps it isn't always a cow. Perhaps it is a goat or a yak or a water buffalo or even a camel but somebody is drawing milk from a beast and the chances are that the beast will be a descendant of *Bos taurus primigenius.* The milker may be a hindu squatting in the dooryard of a primitive indian village or it may be a white coated barn man on one of the great dairy farms of the United States, in either case the prinicple is the same; grass passing through the intermediary of a beast to be taken for the sustenance of men.



Vache Nivernais is the French designation for the fine white cattle that have been developed by the husbandmen of Nevers. The animal is not widely known in the United States but does well as a dual purpose cow.

Bos taurus primigenius, termed the Urus or Giant Ox by the ancients is probably the grandmother or grand-daddy of our present breeds of cattle. Urus was a huge beast that stood six feet high at the shoulders. Caesar in "De Bello Gallico" described the animal as "approaching the elephant in size, but presenting the figure of a bull". Another, smaller breed of wild cattle, the Celtic Shorthorn, also had a share in the development of our modern breeds. The shorthorn was smaller than Urus and some authorities feel that the large breeds originated with Urus the smaller with the Celtic Shorthorn. Both of these ancient types of cattle roamed over Europe, Western Asia, and Northern Africa. The most closely related of existing cattle to these wild forbears are the so-called Wild White cattle, sometimes referred to as Park Cattle, that are found in Great Britain.

Like Begets Like

Man has ever been a meddler. Whether it be atoms or genes he must adjust them to his needs. Cattle in their natural state supplied only enough milk to feed their young and produced but a limited amount of beef. Men set about to alter this situation. For thousands of years primitive herdsmen followed their cattle across the steppes, much as the American Indians followed the annual migrations of the bison, with little thought of change. When the nomadic culture of the plains gave way to the more stable culture of permanent villages husbandmen came to place a premium on quality rather than quantity. The principal that like begets like was known to the ancients and is the foundation of our modern breeding program.

Even before the beginning of written records breeding experiments were being pursued. Although herd books and advanced registry were not carved in the stone tablets of the

MAKE US PROVE

you can boost profits

200%

the "EZE" way!

It *can* be done! Today dairies from coast to coast *are* increasing profits *200% or better* with EZE-ORANGE!

They find this zesty, all-juice-flavor drink a "natural" for dairies. It requires minimum investment, shares distribution costs, boosts total sales to homes, groceries, restaurants, institutions, factories, and schools.

NOW . . . let us show you how YOU can pocket a bigger slice of the Dairy Dollar with high-profit EZE-ORANGE! It's "EZE" . . . with sugar plentiful, a rich market ready-made, and full selling support behind you.

Write today . . . for samples, facts, and figures. Ask for a representative to call. We'll *prove* IT CAN BE DONE . . . the "EZE" way!

America's fastest-selling dairy fruit drinks!

The complete EZE line is shipped direct to you . . . never from stored warehouse stocks . . . always pure and fresh!

EZE-ORANGE COMPANY

FRANKLIN AND ERIE STREETS • CHICAGO 10

From a small area surrounding the English channel have come the great dairy breeds that furnish most of the world's milk. The fine herd of Jerseys shown in this picture are on an Australian Dairy Farm.

Chaldeans the principles of breeding were fairly well known to the Romans. An old poem of Vergil's day admonishes.

"Straight stamp their lineage with the branding fire;
Mark which you'll rear to raise another breed,
Which consecrate to altars, which to earth
To turn its rugged soil and break the clods."

Running through the history of peoples all over the world is the same pattern of cattle and the subsequent dairy products. Hindus, Greeks, Romans, Tartars, Arabs, Iberians, the Germanic tribes, Hebrews, all had cattle. Indeed the modern English word "pecuniary" is derived from the Roman word for money "pecunia" which in turn was derived from still another Roman word "pecus" which means cattle.

Yet in spite of this universal position that cattle have occupied in the development of the various branches of civilization our modern breeds stem from a small, well defined area along the English channel. The one exception to this statement is the sturdy Brown Swiss or Schwyz, the Simmental and the minor Fribourg breed, all of which eminate from Switzerland. Why, from an area scarcely larger than the State of Maine, practically all of the great dairy breeds should find their origin is a question for agricultural historians. It is a fact, however. One has only to call the role; Jerseys, Guernseys, Holstein-Fresians, Dutch Belted, Brittanys, Nivernais, and the Red Danish cattle to see the justice of the statement.

Favorite breed of a famous dairy land are the Red cattle of Denmark. A familiar sight on the rolling green Danish pastures the cattle are good producers and the backbone of Denmark's strong dairy industry.

The influence that the cattle from this small area have had on the history of the world is beyond evaluation. In almost every country in the world representatives of these breeds will be found. Pick up a copy of the South African Dairyman, the cover picture shows a herd of Guernseys coming in from the pasture. A scene on an Australian farm shows Jerseys chewing a placid cud. Journey through the great dairy country in Canada and note the Holsteins out to pasture. On the rich tide water lands of Oahu the Guernseys and Ayrshires, the Holsteins and the Jerseys graze between sea and mountain. Truly is the dairy cow the foster mother of the world.

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Three Boston Firms Honored

Hood, Whiting, and Deerfoot Farms Receive Awards From Brand Names Foundation at Statler Dinner in November

CERTIFICATES OF PUBLIC SERVICE were presented to three Boston dairy companies by Brand Names Foundation in recognition of the 50 or more years they have served American consumers. The awards were made in late November at a dinner sponsored by the Boston Chamber of Commerce and Advertising Club of Boston in cooperation with the Foundation. More than 400 business, industrial, and advertising leaders from the Boston area attended the dinner that saw 80 brand names from greater Boston cited for service.

Brand names of the dairy companies receiving Certificates were: WHITING milk and cream, first produced in 1836 by the Whiting Milk Company, Charlestown, Massachusetts; HOOD'S dairy products, first produced in 1846 by H. P. Hood and Sons, Incorporated, Charlestown, Massachusetts; DEERFOOT FARMS milk and dairy products, first produced in 1847 by Deerfoot Farms, Newton Upper Falls, Massachusetts.

Edward S. Rogers, Chairman of the Board, Sterling Drug, Incorporated, Chairman of the Board, Brand Names Foundation, Incorporated alternating with Henry E. Abt, President of Brand Names Foundation, Incorporated presented the Certificates to Robert A. Burns, Treasurer of Whiting Milk Company, Weston B. Haskell, Director of Public Relations of H. P. Hood and Sons, Incorporated, and H. G. Carr, Manager of Deerfoot Farms.

Keynote address of the evening was delivered by Mr. Rogers who cited Thomas Jefferson as the first American to advocate laws to protect trade-marks, because they would "contribute to fidelity in the execution of manufacturing." In elaborating this fact, Mr. Rogers added, "Thomas Jefferson's views were expressed in a letter which was presented to the House of Representatives in 1791 as a result of a petition for a law to protect trade-marks." First of its kind in American history, the petition was made by Samuel Breck and others, proprietors of a sail-cloth manufactory in Boston.

In view of the Samuel Breck petition back in 1791, Mr. Rogers pointed out that it was especially appropriate to be honoring so many long-lived brand names originating in the Boston area.

In an address preceding Mr. Rogers' remarks, Mr. Abt predicted that closer cooperation between distributors and producers in brand names advertising and merchandising could "increase the accomplishments of the distribution dollar, particularly the advertising dollar, as much as 50 percent."

FOR GREATER SATISFACTION

Greater satisfaction is obtained when using Specialty Brass Company's sanitary valves and fittings due to their precision workmanship, interchangeability, and high quality materials.

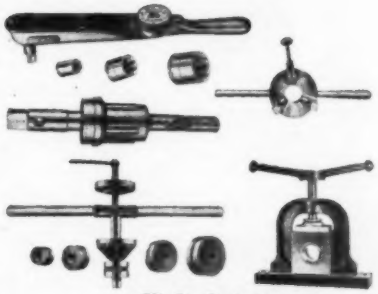
Specialty Brass Company manufactures a complete line of nickel alloy and stainless steel sanitary fittings. Sanitary fittings are made to the standards established by the 3A committee and each fitting is carefully checked to insure that it meets the highest standards for material and workmanship.

Sanitary fittings carried in all standard sizes from 1″ through 4″. Quotations on special sizes or materials gladly furnished.

For over forty years, the Specialty Brass Company has maintained a position as one of the leading sources of sanitary fittings.

Send today for our free Standard Sanitary Fittings Bulletin No. 2FB and our Sanitary Fitting Dimensional Handbook Bulletin No. 2B.

SPECIALTY BRASS COMPANY
KENOSHA, WISCONSIN

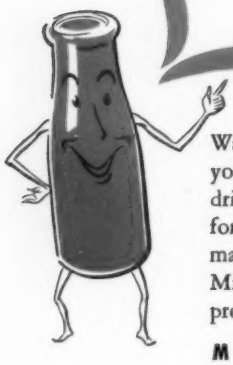


TOOLS

Sanitary Fitting Tools available for installing new lines or maintaining present ones. Write for descriptive literature.

SPECIALISTS IN QUALITY DAIRY EQUIPMENT
AND SANITARY FITTINGS TO MEET YOUR NEEDS 674

MORE CUSTOMERS AND
better
CUSTOMERS



Watch your route sales climb, when you offer your customers the orange drink with the fresh flavor of real California Valencia oranges . . . orangeade made from Mission Dairy Orange. And Mission Dairy Orange is priced for extra profits. Write for your sample today.

MISSION DRY CORPORATION
Executive Offices:
530 West Sixth Street, Los Angeles 14, Calif.
Main Plant: 5001 So. Soto St., Los Angeles

105 Hudson St.
New York 13, N.Y.

510 No. Dearborn St.
Chicago 10, Illinois

MISSION *dairy* ORANGE

ATTENTION DEALERS AND PROCESSORS

Just *One Minute* Please

WHY SPEAK IN WHISPERS ABOUT MASTITIS

It's a serious Menace to the Dairy Industry. Milk from a Mastitis cow is deficient in Butter Fat, Casein and Lactose. Being the product of a DISEASED ANIMAL it's adulterated. All the Pasteurization in the World, CAN'T CURE THE COW or make such milk marketable. So where does that leave Dealers and the Processors of Butter, Cheese, Ice Cream, etc.? There's ONLY ONE MAN that can solve this serious problem. HE NEEDS YOUR HELP. So, before trouble comes —

FLASH A WARNING SIGNAL TO THE MAN WHO MILKS THE COW

He KNOWS if his cow has Mastitis. He KNOWS that Mastitis Milk is unfit for Human use. Tell him its production MUST STOP. If he is testing his cows with the old fashioned "Strip Cup" it may be fooling him. So, tell him about the new, up to date, SAFE WAY. You PAY for Pure Milk. Help him produce Pure Milk. Tell him WHY most Veterinarians use the Brom Thymol Test. Tell him about those Laboratory approved, fast acting, accuracy guaranteed —

KO-EX-7 Brom Thymol Mastitis DETECTORS

with the Green Spots. KEEP A SUPPLY ON HAND FOR HIS USE. INSIST on the Frequent Test of EVERY cow. Make it a MUST for 1948. It will pay you fat dividends in satisfaction. FREE samples upon request. Simply write —

STERLING RESEARCH CORPORATION
DAIRY DIV. N-4 BUFFALO 3, N. Y.

"Wha Hae Wi Wallace Bled"

Government Control, and Highland Individualism Have Met in Head-on Collision Where the Heather Blooms

DAIRYMEN IN SCOTLAND are pressing for a simplification of the type of application form which has to be completed to obtain feeding stuffs rations. Coupons are based on the amount of milk sold two months previously and this is, in the opinion of farmers, the only criterion involved in these applications. Farmers contend that the continuation of existing forms are designed to provide information much of which is of academic interest but of no practical interest in relation to the necessary job of obtaining feeding stuffs. In addition to filling in the amount of milk sold in the revelent period, farmers are asked for the numbers of cows in milk, number of dry cows, calves under six months and calves under one month.

Other data required includes the amount of milk consumed on the farm and the amount consumed in the household. All of this, dairy farmers urge, is unnecessary and becomes a most irritating task when it falls to be tackled month by month. This type of complaint is not limited to dairymen but is general throughout industry. Forms are, it is often argued, far too complex for the function concerned. Argument advanced by the officials is that much of the information is useful and that in any case the system must be made so water-tight that no opportunity presents itself for errors. Those not biased in either direction contend that this is merely the recognised Civil Service routine of making a job so difficult that the less persistent become discouraged and cease their efforts to obtain what they want to the successful achievement of a given policy.

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Don't Crowd, Gentlemen

They Can't Even Give Money Away But Missing Stockholders Are the Center of Intensive Search

EXECUTIVES of many companies in the industry are watching with interest a campaign being conducted by leading corporations in many fields to locate missing stockholders in order to pay them unclaimed accumulated dividends. Many of the companies have been promoting the campaign with an eye on both public relations and management-stockholder relations.

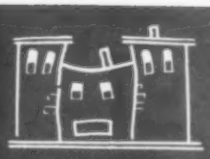
More than 35,000 stockholders were located during the past 15 months for these corporations by the Skip Tracers Company of New York City, specialists in finding missing persons. According to Arthur E. Linker, general manager of Skip Tracers, there are some 750,000 stockholders in this country whose current addresses are unknown to the companies in which they hold stock with unclaimed dividends totaling several million dollars. Of particular interest to the industry is that the Pet Milk Company and the Arden Farms are among the corporations who have been seeking their missing stockholders.

A statistical breakdown of the stockholders located disclosed that slightly over one-third of the listed holders were found to be dead, with their heirs, usually women with minor children, unaware of the value of their holdings.

The average dividend due is about $10 with the largest single unclaimed dividend totaling $16,000.

A large group of missing stockholders are women who purchased the securities before they were married and then forgot about them when they gave up business careers to become housewives.

SQUEEZED FOR SPACE?



Don't take on the headaches of building expansion when Thatcher T-Squares will easily give you more space.

Figure out the expense and problems of expanding your plant space today . . . then—

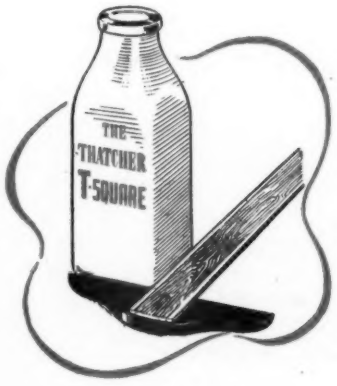
Do as progressive dealers are doing: see Thatcher's Representative about T-Squares.

Discover the space savings in your present cold room

Find out about making your plant work faster and easier.

See how you can increase truckloads, improve deliveries, and decrease costs.

You'll be pleased with the easy installation, customer preference, greater sales, lower operating costs.



Yes! Thatcher T-Squares will take the squeeze off your plant space. Each case of quart T-Squares occupies 958 cubic inches less space than a case of old-style quarts — 750 cases of T-Squares will store in the space where only 500 regular cases can now be stacked. How else can you so easily gain up to 50% more space? And, Thatcher T-Squares bring savings all along the line: easier handling, better trucking, less breakage, and smaller caps. T-Squares could be the answer to your plant expansion problems. Talk it over with the Thatcher Representative in your area.

THATCHER GLASS

MANUFACTURING COMPANY, INC.
ELMIRA, NEW YORK

Dairy Industry Cards Effective In Transportation Advertising

Surveys Made in Leading Cities Show Surprising Results—Wide Variety of Aspects Stressed in Car Card Displays

The variety of advertising media open to businessmen is well nigh legion. The effectiveness of a well planned campaign has been amply demonstrated by the experience of countless organizations across the nation. One possibility, often overlooked, yet possessed of a number of virtues is the car card in busses street cars, subways, and trains. Hardly a community in the land but does not support a passenger facility of some kind. Hardly, a dairy firm in the country, then, that cannot profit by this report from the Advertising Research Foundation.

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PEOPLE WHO RIDE the cars, buses, subways, trains do not only look at car card advertisements, they remember them. Proof of this is the four-color ad "For Sweet Dreams Drink Dodd's Milk" run by Dodd's Alderney Dairy Company of Buffalo in March, 1947. By scientific analysis of transportation riders in the Buffalo area, it was found that 110,000 people, or one out of every six persons in Buffalo, saw, read, and remembered the Dodd Advertisement. Car card advertising is nothing new with Dodd's who have been using half and three quarter runs of 28 inch cards since 1941.

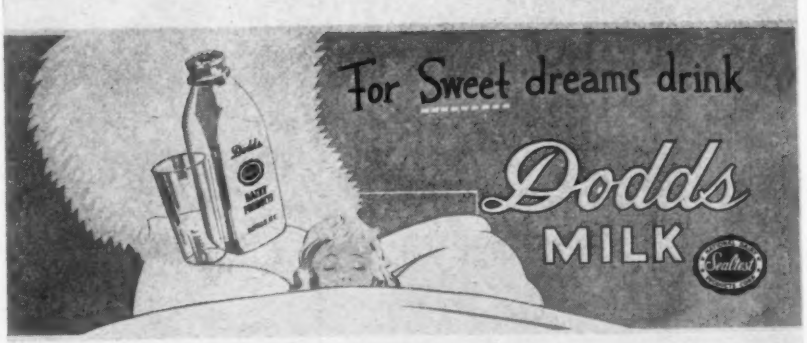
Other dairy companies have found car cards to be an effective advertising medium. Of Cleveland's 860,000 people one out of eight remembered seeing the car card advertsement of *Dairymen's Ohio Farmers Milk Company* which had never before used Cleveland's cars and buses to carry their message. In the San Francisco-Oakland area the *Carnation Company* ranked third highest among the twelve car card advertisers whose reader audience was analyzed. The company's ice cream ad had reached 210,000 transportation riders.

A study of how the transportation public reacts to car card advertising is being continuously made by the Advertising Research Foundation in collaboration with the National Association of Transportation Advertising. Twelve car card advertisements are chosen for reader measurement in a given city. A trained field staff interviews persons of 15 years of age and older who regularly ride the city's cars, buses, and trains. They are asked what car card ads they remember seeing during the past 30 days. From these findings it is possible to measure the impact of each car card advertisement on the transportation public.

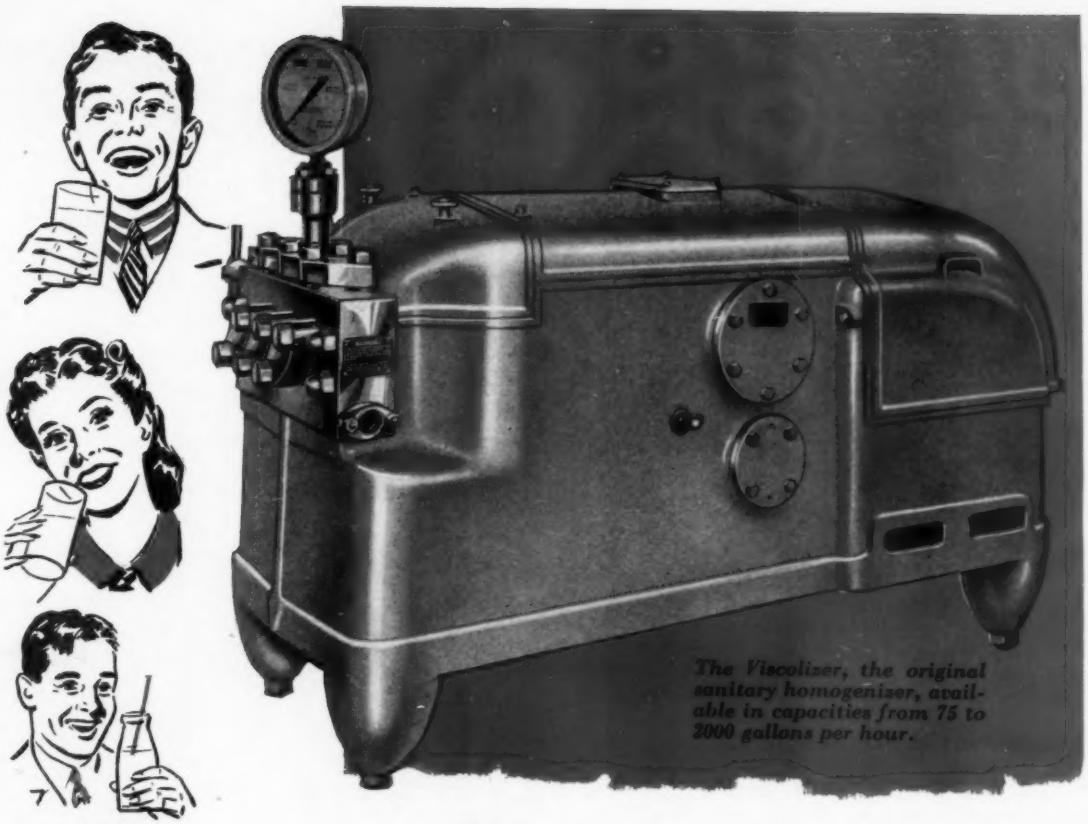
Various aspects of milk and milk products are stressed by dairy companies in their car card advertising. The St. Paul Milk Company says its Puritan Milk makes "milk drinking a greater pleasure". "Your Most Important Food" is the burden of Clover Brand's advertising. The purity and freshness of milk, the goodness of ice cream, the whipping quality of cream, yes, even promptness in returning milk bottles, are among the themes used by the dairy industry in its advertising messages to the commuting public.

Editor's Note

As one examines the efforts of the dairy industry, one cannot but be impressed by the disparity between the excellence of the product and the poverty of the advertising. The total amount spent by the American Dairy Association and the National Dairy Council is a poor fraction of the funds expended by the Raisin Growers to sell their product. The advertising doller, carefully spent, is a dollar well spent.



These attractive car card advertisements were taken from three different cities. Cleveland's Dairymen's Ohio Farmers Milk Company, Buffalo's Dodd's Alderney Dairy, and the Carnation Company in San Francisco all used this medium. Analysis of this type of advertising is conducted by the Advertising Research Foundation and the National Association of Transportation Advertising.



The Viscolizer, the original sanitary homogenizer, available in capacities from 75 to 2000 gallons per hour.

...Your Customers

cast a strong vote for the viscolizer

The youngsters, the old folks — yes, people of all ages and classes — are ever more rapidly turning to homogenized milk. This is more than a preference — it's a demand that is being met by progressive plant operators who install a Viscolizer, the original sanitary homogenizer.

The Viscolizer offers you a great opportunity to take advantage of the increased demand for homogenized milk. It is far ahead in design; in ease of maintenance and cleaning . . . its completely sanitary cylinder block, shaped from a solid billet of stainless steel, is the most sanitary homogenizer cylinder available . . . its improved valve nearly doubles the homogenizing area to make possible more efficient homogenization at lower pressures.

There are many other reasons, important reasons, why you should own a Viscolizer. Ask your Cherry-Burrell Representative to explain them more fully to you. He can give you accurate information on our improved deliveries.

CHERRY-BURRELL CORPORATION
General Sales and Executive Office:
427 W. Randolph Street, Chicago 6, Ill.
Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

DEDICATION IN CONNECTICUT

Connecticut Milk Producers Association Crowns Thirty Years of Operation With a Fine Modern Plant in Hartford — Handled 25 Million Pounds in 1947

We hear a great deal these days about the "American Way" about making "America Strong". Much of it is lip service. Much of it is blank ammunition that says in effect "Behold what a patriot I am. Behold I am a very fine fellow indeed." It is, therefore, with a feeling almost of reverence that one gazes upon the real McCoy.

The Connecticut Milk Producers Association has not been beating the patriotic drums. Yet it has achieved, in the best American tradition, a position of leadership and solidarity in the Nutmeg State that is a model for the nation. The dedication that took place this fall was not only the formal opening of a splendid facility it was the concrete expression of vision, of integrity, of hard work and what our mid-victorian forebears would have described as "intestinal fortitude".

●

ROB MITCHELL said it was a dream come true. The Connecticut Milk Producers' Association, after 30 years as a cooperative bargaining agency for dairy farmers, had its own completely equipped receiving and processing plant.

Planned during the war, built while priorities and shortages were still serious problems, the plant was intended to cope with a post-war flood of surplus milk which has not yet developed. If it comes, the CMPA is ready. If it doesn't come, the plant will pay for itself in other ways. It proved its usefulness before it was completed.

Robert C. Mitchell of Southbury, President of the CMPA for the first 20 years of its existence, and one of its founders in 1917, was a speaker at the dedication ceremonies October 8. In 1933, he recalled, the Association found itself without a market for a large volume of milk. It had no plant facilities. Nobody wanted the milk. It was sold at a loss for many months, and the experience nearly wrecked the cooperative. Said Mr. Mitchell, with feeling, looking at the new $186,000 plant, "That can't happen again."

The dedication was a great day also for the officers of the Association, Adrian R. Wadsworth of Farmington, president, Lucius W. Robinson of Columbia, chairman of the building committee that planned the structure and their fellow directors on the 21-man board. It was another achievement for the Association's general manager Ken E. Geyer, and for his assistant, Edward C. Masten, who handled the day-to-day details of construction with the architect and the contractor.

Members brought their wives, and some of them their children, to see "our plant". Governor James L. McConaughy stopped by with a word of praise. It was in this congratulatory atmosphere that Mr. Mitchell remembered the darker days of the great depression.

The 1933 crisis, in fact, was the stimulus that made the plant a possibility. In earlier days, the members of the CMPA had given no thought to the need or desirability of owning their own milk handling facilities. Their association was a "bargaining" cooperative. It sold their milk for them, sometimes at a price they liked and sometimes not, but what happened to the milk once it reached the dealer's platform was someone else's worry. When they had to handle milk themselves, it was a case of sink or swim. The 1933 surplus was sold to dealers, who had handling facilities, at any price it would bring, but the directors and management began to make plans for a better solution if the same situation should arise again.

The first receiving plant, and home office for the cooperative, was built up in 1938. The milk handling facilities were overtaxed as soon as the plant was opened. It had been anticipated that they would stand idle, for the most part, but it didn't work out that way. Surplus milk started coming to the plant immediately. It was separated. A market was found for the cream, but at first there was nothing to do with the skim milk except to run it down the drain.

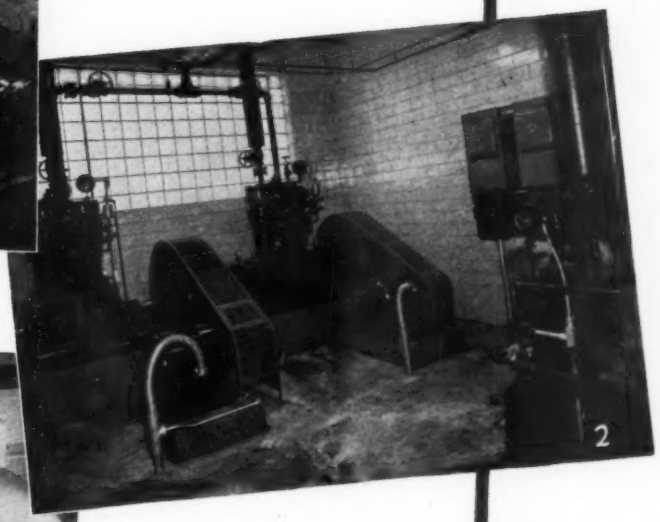
That led to a cheese making operation. A separate cheese plant was built across the driveway from the main building. It was operated by a cheese company, on a lease basis, in the beginning, but since 1943 it has been run by the Association's employees, at seasons of the year when there is surplus milk. The product is bakers' cheese, which is sold in New York City.

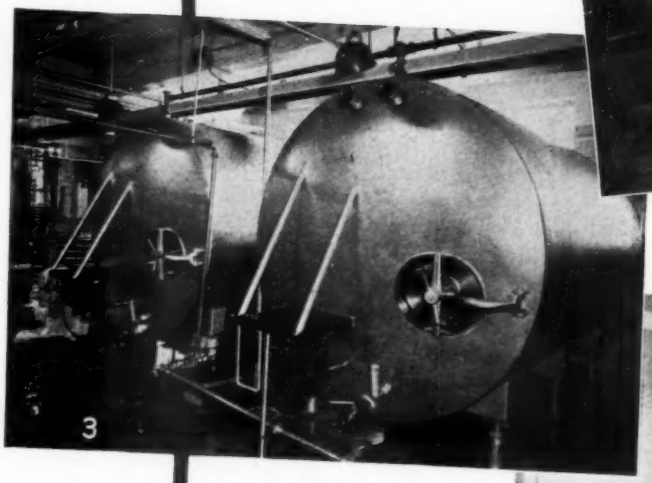
Attracted New Business

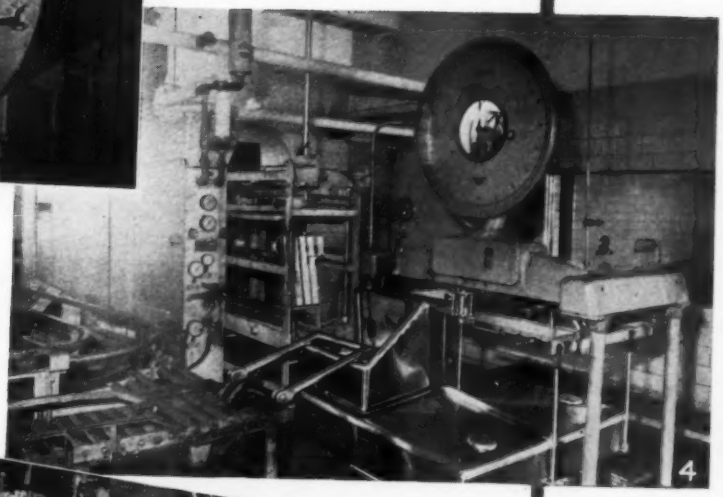
The existence of the plant brought another development that had not been foreseen. With milk available in the holding tanks, some of the smaller dealers in Hartford found it was convenient to buy their entire supply from the CMPA plant. They could get their milk at one place, at their own convenience, eliminate a country haul and be sure of a regular supply.

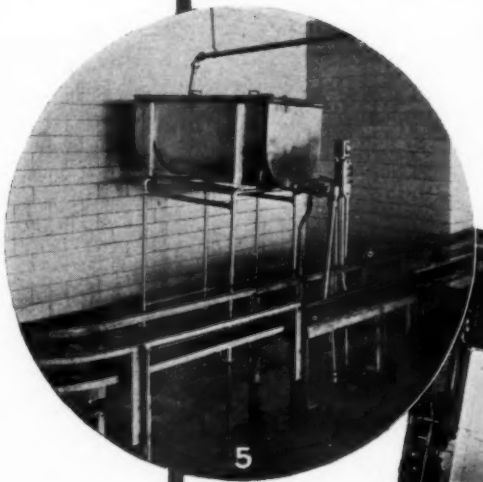
On the Association's part, this was an outlet for milk at the Class I price plus the cost of handling. The business was most welcome. Today 20 dealers are under contract with the CMPA for a full supply of milk at the CMPA platform. In the new addition to the plant, an area is set aside for this

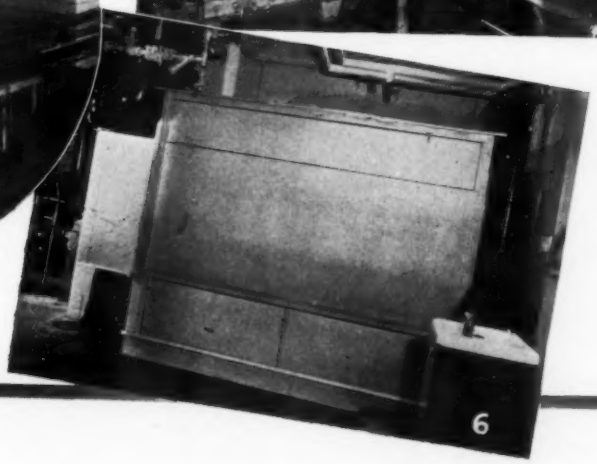
1. New plant of Connecticut Milk Producers' Association sits behind green lawns on Hartford's Historic Wethersfield Avenue.
2. The plant is well equipped to handle a growing volume of business. These compressors are part of the refrigerating system.
3. The shining efficiency of statinless steel is apparent in this pair of storage tanks with a combined capacity of 12,400 quarts.
4. The receiving room shown here is immediately adjacent to the unloading platform. Cans go by conveyor from trucks to scales.
5. Set for streamlined operation, the new plant places a premium on speedy handling of milk. This can filler does 120 per hour.
6. One phase of the can washing problem is solved by this second can washer. Cans go through this washer before being filled.











platform service. Dealers' trucks pull up to a separate platform. Empty cans go on a conveyor into the plant, through a can washer, are filled with milk that has been clarified and cooled to 36 degrees, and travel out again to the waiting truck.

At the north side of the plant, on power conveyor, the country trucks unload. The milk is dumped, weighed and sampled, and pumped into the holding tanks. Unless there is surplus milk in the plant, the separators and pasteurizers are idle. When the separators are working, the cream is pasteurized and cooled. The skim milk is pasteurized and goes directly to the cheese vats next door through a sanitary pipe line that crosses the driveway above truck height.

This year the plant will handle 25 million pounds of milk. But this is still a sideline. The bulk of the milk sold by the CMPA goes direct from the farms to the platforms of 34 dealers.

CMPA A Stable Influence

Set up to handle surplus milk, locally produced, the plant can function equally well in reverse, receiving milk from outside the normal milkshed when there is a shortage in Connecticut. Even with the smaller capacity of the old plant, the Association was able to function during the war years as a receiving and distribution center for the considerable volume of milk brought in to meet the demand of a hungry war-worker population.

Milk came in tank trucks to the Association's plant and was re-distributed in accordance with a careful allocation plan worked out by dealers with the CMPA, to provide a fair share of both locally produced and emergency milk for each Association customer. The plan met with considerable success.

Connecticut, historically, has been a remarkably self-contained milkshed. Not much milk came into the state. Not much was shipped out. Providence drew a little from eastern Connecticut. New York took a little from the western edge of the state. Hartford took some milk from Massachusetts. Bridgeport might reach out a little way across the New York line. The CMPA, as the only large bargaining cooperative, has always taken most of the responsibility for keeping this market stable. In other words, the CMPA absorbed the surplus. Its members carried the load, in lower prices for their milk.

Connecticut Demand

Times have changed. With a population of 2 million and a high employment level, Connecticut demands more milk than ever before. With a level production incentive program in operation, and very well received, Connecticut producers are smoothing out the curve of seasonal variation. Surplus is not, at the moment, any serious matter for the industry. The 1650 members of the CMPA, with the encouragement of the management, have been striving constantly to produce more milk to meet the market needs. They have succeeded to a remarkable degree. Production this year will approximate 210 million pounds, and at the prices which have prevailed, the gross returns to producers will be $12 million.

Part of that income they would not have had without the Association plant. Handling surplus when there is a little in the spring, receiving and distributing imports from outside the state, making life easier for the dealers who get their full supply from the CMPA platform, the plant has served the membership and the entire industry in Connecticut.

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ROUND Cases
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Every detail in these cases is designed for minimum weight, greater strength and extra convenience. No other case combines as many features at no extra cost.

For complete details contact your favorite dairy jobber or the Certified Products Co. direct.

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Temperature is easily controlled with this control knob. Thermometer gives exact temperature with the tester.

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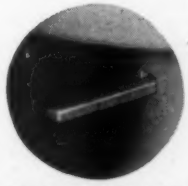
Testrite meets all requirements for accurate testing!

Now! For the first time—you can get accurate Babcock test results. The Cherry-Burrell TESTRITE Tester gives you proper testing conditions—*correct centrifuging temperature and correct centrifuging speed!*

There is no overheating of tests in the TESTRITE—no testing with a cold tester. Temperature is at your control. There is no testing at low speed or speeds that are too high. The control of the TESTRITE speed is in your hands.

You'll marvel at all the control features of the NEW TESTRITE that enable you to make correct tests. You'll praise its gleaming appearance, its vibrationless operation. Ask your Cherry-Burrell Representative for the ultimate in fine testing equipment—ask him for a TESTRITE—it points the way for accurate and controlled testing.

Over capacity standard wound motor stays unaffected by load variations. Belt drive with adjustable pulley makes speed adjustment possible.



Braking lever and special brake drum stops TESTRITE gently and easily—helps prevent spillage.

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NEW ANGLE *on* COTTAGE CHEESE

The Missouri Experiment Station Has Developed a New Method of Manufacturing Cottage Cheese from Nonfat Dry Milk Solids — Process Tested Commercially

By W. H. E. REID and MERRILL O. MAUGHAN*

The recent success of a dairy products judging team from the University of Missouri in the student judging competition at Miami suggested that the "Show Me" State was destined for a place of increasing prominence in the dairy sun. Work on cottage cheese from nonfat dry milk solids done at the Missouri Experiment Station bears out this contention. The efforts of Mr. Reid and Mr. Maughan are the healthy result of an increasing dairy consciousness along the "Ole Miss".

●

A NEW SHORT METHOD of making cottage cheese from dry milk solids has been developed at the Missouri Experiment Station. More than 100 batches of cheese were made, using dry milk from 11 different manufacturers. This was done to test the process with dry milk solids made by various types of spray equipment and in various parts of the country.

After the laboratory work was completed at the Experiment Station the new process was checked on a commercial scale at two Columbia dairy plants. About 325 pounds of cottage cheese were made daily at these plants for ten days. It was made in the same general way that all modern plants make their cottage cheese. It was packaged and sold through both retail and wholesale channels. The product was declared "excellent" or "good" in all cases. As a result of these trials the method has been adopted by many manufacturers.

THE PROCEDURE—IN TEN STEPS

The following is the recommended procedure for the manufacture of high quality cottage cheese from spray process nonfat dry milk solids, using a 20% concentration. That is, 20 pounds of solids to each 80 pounds of water.

(1) Kind of Nonfat Dry Milk Solids to Use

Use only high quality nonfat dry milk solids.

(2) Reconstituting the Milk Solids

Add the milk solids to the water and not the water to the solids.

Since the best temperature for "setting" the curd is from 86 to 90 degrees F., you can save time by using water only slightly warmer than that. Use water at 90 to 92 degrees and you will not need to use the jacket on the cottage cheese vat. Higher temperatures slow down the process of getting the milk solids in solution.

Use 20 pounds of solids to each 80 pounds of water, thereby giving the product a 20% concentration. This is about two and a half times the concentration of ordinary fluid skimmilk.

(3) Adding the Starter

Add 12% of starter having an acidity preferably of .80% to .85%. This large amount of starter is added to bring about rapid "setting" thereby resulting in a short-time method for making cottage cheese. A short time method has many advantages, hence this procedure.

Important: Every cottage cheese authority appreciates the importance of using good starters. The use of high

*Formerly with American Dry Milk Institute. Now member executive staff of American Meat Institute and member of faculty of Northwestern University, Chicago, Illinois.

A uniform setting temperature is very important to produce good cottage cheese. An accurate thermometer is an excellent investment.

If the curd "breaks clean" as the thermometer is pushed forward, it is ready for cutting. Experience helps to recognize this condition.

quality milk, thorough pasteurization of the milk, and accurate control of "setting" temperature, are essential in the making of a satisfactory starter.

(4) Adding the Coagulator or Rennet

Add a good "coagulator" immediately after adding the starter to the reconstituted milk in the cottage cheese vat and stir thoroughly.

The amount of coagulator to be added will depend upon the type of coagulator used. It is advisable to add 12.0 cc. of certain coagulators to each 100 pounds of reconstituted milk. When using rennet, 1.2 cc. of rennet to each 100 pounds of reconstituted milk seems advisable.

(5) "Setting" Procedure

Let "set" until ready to cut.

The time required for "setting" will be about three hours under this short-time method of manufactuure. Some brands of milk solids required only 2½ hours, other brands required as much as 3½ hours for best results.

To determine the proper time to cut the curd insert a dairy thermometer into the curd and force the thermometer forward (Fig. 3). If the curd "splits clean" in front of the thermometer, then the curd is ready for cutting. Experience will help you recognize this condition.

Some cottage cheese makers give great emphasis to the acidity of the curd as being the best indicator of the proper time to cut the curd. However, our research studies show that acidities are sometimes as low as .60% when this proper point has been reached. In some instances the acidity has reached as high at .90%.

However, with added experimentation on any one particular brand of milk solids over a longer period, probably an ideal acidity point can be determined for that particular brand which the cottage cheese manufacturer would want to use as his individual guide.

(6) Cutting the Curd

Cut curd in the usual manner and allow it to stand for 60 minutes. Allowing the curd to stand for about one hour after cutting gives time for the whey to separate from the curd and for the curd to begin to "firm up".

In our research studies, we attempted to cook the curd immediately after cutting, and then again we have waited as long as three hours before beginning the cooking procedure, but the most satisfactory time seems to be approximately 60 minutes. When using certain brands of dry milk solids, good results were obtained by beginning the cooking procedure within 15 to 30 minutes after the curd had been cut.

(7) "Cooking" the Curd

(This is a very important step and care must be experienced to avoid breaking the curd. Best results are obtained when cooking is done *very* slowly and *very* gently.)

Cook for 60 to 105 minutes, namely 1 to 1¾ hours, as follows:

a. First, add water having a temperature of 120 degrees F. directly against the inside walls of the cottage cheese vat. The amount of water added at this temperature should be equivalent in volume to approximately one-third of the amount of curd and whey already in the vat.

b. Slowly raise the temperature of the water in the jacket of the vat to 120 degrees F.

c. Add additional water having a temperature of 120 degrees F. against the inside walls of the cheese vat.

Yes, we mean just that, Mr. Dairy Plant Operator. You want every one of your producers to sanitize effectively. Let us work together.

You'll find LO-BAX promotion paving the way. In stepped-up radio, farm and dairy paper advertising, in letters and numerous folders sent to your patrons, in attractive posters, milk house instruction cards, and booklets on milk sanitation—in all these ways, the makers of LO-BAX stress the value of bacteria control. And you're helping producers get started when you stock LO-BAX for them.

Ask to see how the LO-BAX plan operates—you'll be making a constructive move toward more profits, greater volume, and a better competitive position. Write The Mathieson Alkali Works (Inc.), 60 East 42nd Street, New York 17, N. Y.

LO-BAX—50% available chlorine

a highly efficient chlorine bactericide

- EASY TO HANDLE AND USE
- A FAST KILLER
- STABLE (doesn't lose strength)
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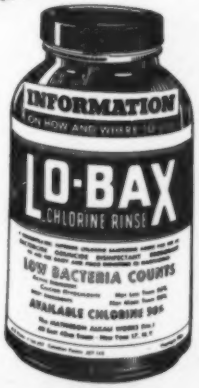
- HARMLESS TO COWS' UDDERS AND MILKERS' HANDS



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Require so little effort to operate that girls can easily make the tests

Equipped with the new, self-adjusting rubber plunger — *all* four types of KING S-T-S MILK SEDIMENT TESTERS are actually so effortless in action that even a child can operate them.

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This new, self-adjusting Neoprene plunger is a precision unit that fits to a thousandth of an inch. Thus, it produces perfect suction. Yet, it operates as free and smooth as a well-oiled piston.

No Grinding or Fitting Needed

There are no ridges, fins, or spurs to cut or grind away. The new KING S-T-S SELF-ADJUSTING PLUNGER fits perfectly, automatically adjusts to barrel surface, and self-adjusts to minor irregularities caused by accident or careless use. There is a KING S-T-S MILK SEDIMENT TESTER that will make testing in your plant a pleasure instead of a drudgery.

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KING S-T-S E-Z LOCK SEDIMENT TEST RECORD CARDS
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Universally approved by dairy and regulatory authorities from coast to coast

SEDIMENT TESTING SUPPLY CO.
World's Largest Producers and Distributors of Milk Sediment Testers and Sediment Test Cards
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This cheese has uniform texture and the desired firmness. Cottage cheese is economical, nutritious and a good source of protein.

Add about as much water at 130 degrees F. as was added at 120 degrees F.

d. Then add water at 140 degrees F. against the inside walls of the vat, using an amount sufficient to raise the entire temperature of the contents of the vat up to 120 degrees F.

e. At the end of 30 minutes, stir the curd very gently using a cottage cheese scoop. By moving the cottage cheese scoop directly across and on the bottom of the vat, the cottage cheese particles will be flocculated and thereby prevent matting.

f. At the end of 45 minutes, and again 15 minutes later, carefully stir the curd once (once only). Using the same cottage cheese scoop, this time pull the scoop towards you. In this way the cottage cheese particles are moved from the opposite side of the vat to the side nearest you and will again flocculate or separate all the cottage cheese particles and in this manner they are heated uniformly.

g. At the end of 60 minutes, again stir the curd.

h. Thereafter, gently and slowly stir once each five minutes until the curd is sufficiently cooked or firmed. Slow cooking of the curd and care in stirring will prevent breaking the curd. (Fig. 4.) It will be necessary to add more water against the inside walls during the cooking process to keep the temperature at or very close to 120 degrees F. through the entire cooking process.

To determine when cooking is completed, experience again is very valuable. A common test to use while the curd is firming is to put a few cottage cheese particles in a bottle of cold water and shake. If they stand up without breaking, then the cooking process has gone far enough.

(8) Draining Whey and Washing Curd

Drain off the whey. At the same time, however, as the whey is being drawn off, it is very important to add cold water at the opposite end of the vat. This means the cooling of the curd gradual and helps to float the curd. If all of the whey is drained off before any water is added, the cold water may cause the warm curd to mat together.

Continue to wash the curd gently and thoroughly until

the acidity of the wash water is down to a point ranging bettween .02% and .06%.

(9) Determining Yield and Storing Cheese

Weigh the cheese to determine the yield. Next place the cottage cheese in clean cans free from rust and cover with cold water. (If you wish to prolong the keeping quality of the cheese 5 ounces of salt may be added to each 20 pounds of water used.) Then place the cans of cottage cheese in a storage room at 40 degrees F.

Storage water should be changed frequently, at least once every three days, and preferably more often as a means of prolonging the keeping quality of the cottage cheese.

(10) Creaming and Salting the Cheese

When the cottage cheese is removed from storage, drain thoroughly. Then add cream and salt to suit the taste of the consumer and to meet the standards you have adopted for your high quality cottage cheese.

Cottage cheese offers wonderful possibilities, since it is an excellent source of protein, and is economical and highly nutritious.

ACKNOWLEDGMENT

The authors wish to acknowledge the cooperation given by the American Dry Milk Institute, Chicago, Illinois, and the Central Dairy Company and Hillcrest Dairy Company, Columbia, Missouri, where the cottage cheese was made on a commercial basis.

Reprinted from Bulletin 505 issued by the University of Missouri Agricultural Experiment Station.

BOSTON'S NEW PRICE FORMULA

(Continued From Page 16)

the seasonal production spread. The other is a provision for supply-demand adjustment. This supply-demand adjustment is provided in order to insure a constant supply of milk. The desirable supply, as mentioned previously, was said to be a reserve, over and above the demands of the fluid market, of 15 per cent of the total receipts in the month of shortest supply.

The final recommendation of the Boston Milkshed Price Committee was that the necessary calculations to determine the index should be completed not later than the 25th of the month preceding the period in which the Class I price would apply. If a new price is to go in effect in April, says the Committee, find out what is going to be by the 25th of March.

The Committee closes its report with "The formula recommended in this report would not eliminate the need for, or the importance of, public hearings for the purpose of establishing Class I prices under the Federal milk marketing order. Its principal purpose, in this connection, is to provide a method whereby sound and desirable Class I price changes can take place when they are called for without the industry's having to await a public hearing and all the procedural steps involved in amending the order." And finally, "Any formula for Class I prices will need to be critically examined from time to time in order to establish whether any basic changes in demand or in production techniques require that an adjustment be made in the economic relationships underlying the formula. The need for such critical re-examinations from time to time is recognized now, so that constructive changes in the formula may be made in the future without disturbing the confidence of the dairy industry in the inherent soundness of the recommended formula."

Under present conditions the new formula results in a higher price to producers than is found under either the old butter powder formula or the actual price. What the net result will be if the formula is written into the order only time can reveal. Whatever the future holds, however, the work of the Boston Milkshed Price Committee will stand as an intelligent approach to a delicate problem.

The Case With Extra Years of Low-Cost Service "Built-in"
FOR QUART SQUARE BOTTLES
Patent Applied For
Easy to Handle
Strength plus Lightness are big factors when consideration is given to handling and hauling in the work-a-day routine of a dairy plant. A Savings in weight — a Savings in replacements — totals big in the reduction of costs.
It's All-Aluminum
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MERCHANDISING MOBILIZATION

Geared to High Powered Activity With an Extensive Seven Point Selling Plan The American Dairy Association Is Going After the 1948 Food Market

By OWEN M. RICHARDS

One of the outstanding phenomena of the war and post war years has been the increase in the consumption of dairy products. Part of this expansion in demand is due to increased purchasing power, part is due to the low prices of dairy products in relation to "all foods". But probably the most important single factor has been the activity of our trade associations in developing potential markets. In this article the energetic Managing Director of the ADA tells you what the Association plans for '48.

NEW BUSINESS NOTES echoing across the country have been sounded by the American Dairy Association in industry-wide action to expand the markets for milk, cream, cottage cheese, buttermilk, ice cream, butter, cheese and other dairy foods. The sales-making line-up in the business schedule of ADA's nation-wide Merchandising Mobilizations for the next few months follows:

(1) *"DE-E-E-LICIOUS WHIPPING CREAM"* to be spotlighted on the market front during January and February;

(2) *"AH-H-H COTTAGE AND CREAM CHEESE"* a fast-moving nation-wide sales event spotted for the last week in April and the first week in May;

(3 *"UM-M-M ICE CREAM – TAKE IT HOME"* a new merchandising wrinkle to make Ice Cream a family affair, to get underway in April and reach its peak in June;

(4) *"BETTER WITH BUTTER"* an all-out butter promotion keyed to a nation-wide food industry merchandising mobilization during June;

(5) *"COOLING BUTTERMILK"* for those hot July and August days;

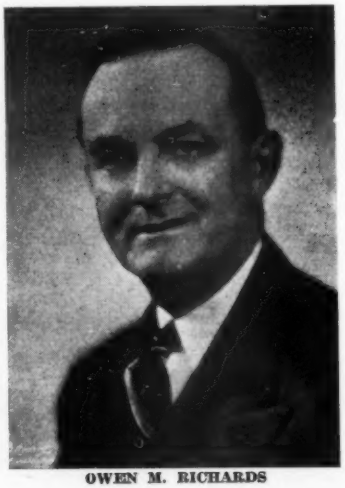
(6) *"INVITINGLY YOURS"* a milk and cream campaign in focus with back-to-school days in September;

(7) *"CHEESE FESTIVAL"* a national event set for October.

New Sales Pattern

The general pattern of the "merchandising event" as set up and operated by the American Dairy Association begins with tie-ups with related food advertisers, getting them to feature the dairy-food-of-the-month in relation to their products at the same time that ADA ads are appearing. This amplifies the effectiveness of the dairy farmers' advertising and pyramids public interest in the product.

Merchandising follows through to the point of sale. It enlists the cooperation



OWEN M. RICHARDS

of retail grocers, both chain and independent. How does this vast merchandising force go into action? By featuring the dairy food and its related product in store displays and local advertising.

What are the highlights of the merchandising mobilization upon which the ADA House of Experience has stamped its approval for the coming months?

Whipping Cream Promotion

Spotlighting whipping cream in related food advertising is the current Pillsbury cake promotion and the cling peach merchandising event running in January and February. Full color ads sponsored by these two organizations reach a combined newspaper and magazine audience of 95 million people, an average of two messages to every home in the nation. Dairy foods come in for their share of glory by the suggested use of milk and butter in the cake recipe with a delicious whipped cream topping.

Teamed up on the whipped cream promotion is the Can Manufacturers' Institute. Their "peach cake with whipped cream" ad is published in magazines going into another 24 million homes. Add to this the retail market push obtained through nation-wide distribution for point-of-sale advertising helps, tie-in mats for local newspaper use, floor display suggestions and window display material.

Big and Best on Cottage Cheese

The industry's greatest promotion on cottage cheese and cream cheese is coming in late April and the first week in May when the American Dairy Association again mobilizes the merchandising forces headed by the Cling Peach Advisory Board of California. Many of the combinations will headline cottage cheese, others will spotlight cream cheese with cling peaches.

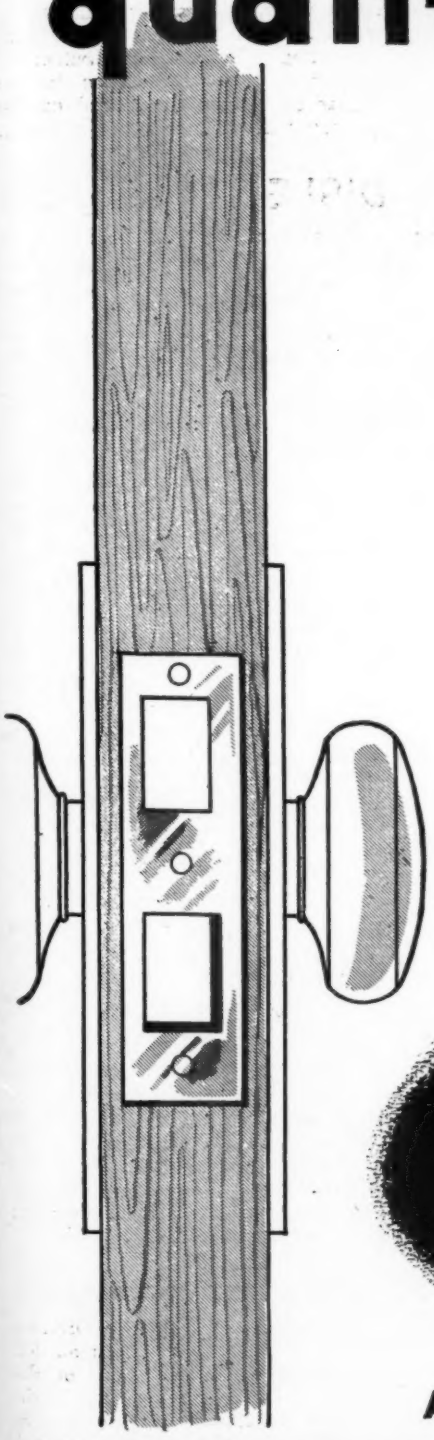
Full page color advertising by ADA and the Cling Peach group, keyed to cottage and cream cheese with peaches, is slated for publication in Life, This Week, American Weekly, Parade, Sunday newspaper supplements and the leading women's magazines. Additional advertising in magazines and over radio will be carried by Del Monte, Libbys, Stokely's along with national and regional dairy product advertisers. It is estimated that total coverage in impressions will reach the 200,000,000 mark during the two-week period.

Pattern for Profits

When all put together, the merchandising picture for cottage and cream cheese with peaches looks like this: in addition to ADA advertising, related food advertisers will feature specials, brand advertisers in the dairy industry will coordinate their efforts of promotion, thousands of local dairies will get

quality

opens the door to increased sales



Quality . . . the kind of quality that's assured by the use of Buflovak equipment, can well be the key to your continued success in marketing concentrated milk products. today's market is a demanding market . . . and only the producer with a reputation for consistent quality can hope to do a profitable selling job.

The Buflovak Double Effect Evaporator produces condensed and evaporated milks that possess that rich, natural flavor, good color and uniform texture that only instantaneous evaporation can give you . . . products that always rate a preferred position in consumer acceptance. And Buflovak achieves this positive quality control economically. The 99.9+% solids recovery and 50% savings in steam and cooling water bring production costs down to rock bottom.

Companion equipment of Double Effect Evaporator is the Buflovak Roller Dryer for direct conversion from liquid to dry milk. A plant equipped with both is ready to meet any conceivable market condition.

Buflovak
DOUBLE EFFECT
EVAPORATORS

AND BUFLOVAK ROLLER DRYERS

BUFLOVAK EQUIPMENT DIVISION
OF BLAW KNOX COMPANY

1627 FILLMORE AVE. BUFFALO 11, N. Y.
295 Madison Avenue, New York 17 — 1636 Monadnock Bldg., Chicago 4
2217 Olive Street, St. Louis 3 — 1706 Broadway, Oakland 12, Cal.

behind the push. Retail stores from coast to coast will give special play to combinations of cottage and cream cheese with peaches.

The event will be intensified in a nation-wide sales drive with restaurants, dining cars, airliners, hotels and other eating esablishments joining forces in a dynamic salesmaking campaign to merchandise and sell the cheese and peach combination.

Round-Up on Cream Sales

Still another business note that will resound from shore to shore on the merchandising horizon of ADA is the organized promotion of "cream and coffee" through related food cooperation, acting with the coffee institute and its affiliated members. Here's a potential cream market loaded with sales opportunities. All America loves its cup of coffee. Much of adult America drinks not just one cup of coffee a day, but several cups. Every day thousands of America's youth are being initiated into the coffee drinkers ranks.

Just as "little drops of water and little grains of sand make the mighty ocean and the mighty land" so little "pours of cream" added to millions of cups of coffee daily makes a mighty merchandising project with plenty of punch for cream sales.

Recent surveys reveal that better than a third of coffee drinkers now take no cream in their coffee. Statisticians have estimated that this represents a market for more than a billion extra quarts of cream a year. To build a cream market among new coffee drinkers and to recapture the "lost legions" are dairy industry sales objectives.

Government figures show that average per capita consumption of coffee in 1945 was 17 pounds per person, or a grand total of 107 billion 100 million cups. If an ounce of cream went into every cup, some 3 billion 346 million 875 thousand quarts of cream would be consumed. This cream market will be aimed at in an aggressive year around campaign on "Cream in the coffee, please".

Ice Cream Festival

Comes summer and with it the ADA will launch its sales-slanted Ice Cream Festival. This strikes a new business note in bringing ice cream into the family circle of the home. According to the best available information, at the present time only 30 percent of the nation's ice cream is consumed in the home and 70 percent outside the home as compared with 70% of most other foods being consumed in the homes. To increase ice cream consumption in the home is the business challenge confronting the dairy industry.

With the advent of modern improved refrigeration, the ice cream festival takes on added significance and offers unlimited opportunities for expanding the ice cream market, even though consumption is this year at an all-time peak.

Aiming its sales sights at the billion-gallon-a-year-mark, which represents a 25 percent expansion, the ice cream festival will have as its theme, "Um-m-m Ice Cream—Take it Home!" The promotion will be spearheaded by a striking full color ADA ad in the July issue of Good Housekeeping reaching nearly 9 million homes.

Multiple Business Action

Through ADA the dairy industry is investing a million and a quarter dollars which will be swelled to $15,000,000 through the Merchandising Mobilization of sales-pointed activities by (1) related food advertisers, (2) food page editorial support in magazines and newspapers, and (3) retailer merchandising with a planned program of business action at point-of-sale. It will be day-to-day salesmaking activities from January through December. There'll not be a "dull sales moment" throughout 1948. ADA has pitched its business action program to the dairy industry's way of business—day by day selling throughout the year.

●

BUTTER MAKING CHAMP

Churning out a high scoring product that rated 94.5 in the official scoring, Henry Thompson, manager of the White Creamery Company of White, South Dakota, won the title of Champion Butter Maker of South Dakota at the State Dairy Convention.

The meeting, held at Huron on December 3 and 4, attracted a large number of dairymen from the Coyote State.

Competition was keen in the butter making contest with the winner pressed by H. P. Gorez of Marion who creamed a healthy 94. Third place went to W. F. Brunn of Freeman who patted out a 93.5 while C. N. Peterson of Brookings salted away fourth position with 92.5.

White Creamery added to its collection of honors when it was awarded a Certificate of Excellence by the convention. Basis for the award was general cleanliness, efficiency, quality of product, and convenience of the creamery. The scorebook boys gave the White establishment a shimmering 97.

●

DAIRY WEEK AT KANSAS

The Department of Dairy Husbandry at the Kansas State College has announced the dates for its first dairy industry conference February 17-20, 1948.

The first two days will be devoted to problems of the creamery and milk plant fieldmen, and will be followed by special programs for creamery, cheese, market milk and ice cream plant operators. This conference will be of special interest to managers, plant superintendents and others interested in procurement, processing, sales and distribution of dairy products. In addition to the regular staff members, several outside speakers will appear on the program.

●

DISI Exhibit at London

Washington, D. C.—Reports from London to Washington headquarters of the Dairy Industries Society, International (DISI), which maintained an educational stand at the recent British Dairy Exposition in West London, reveal a continuance of growth of interest in ways and means for international contact and concerted educational action in the dairy world.

DISI, with a membership in 35 countries, is devoted to advancing all phases of dairy enterprise and to stimulating consumption of milk and all its products.

"The Society's presence in the British Dairy Exposition, it is hoped, presages an educational participation in expositions generally throughout the world which are concerned primarily with dairy progress," DISI officials stated.

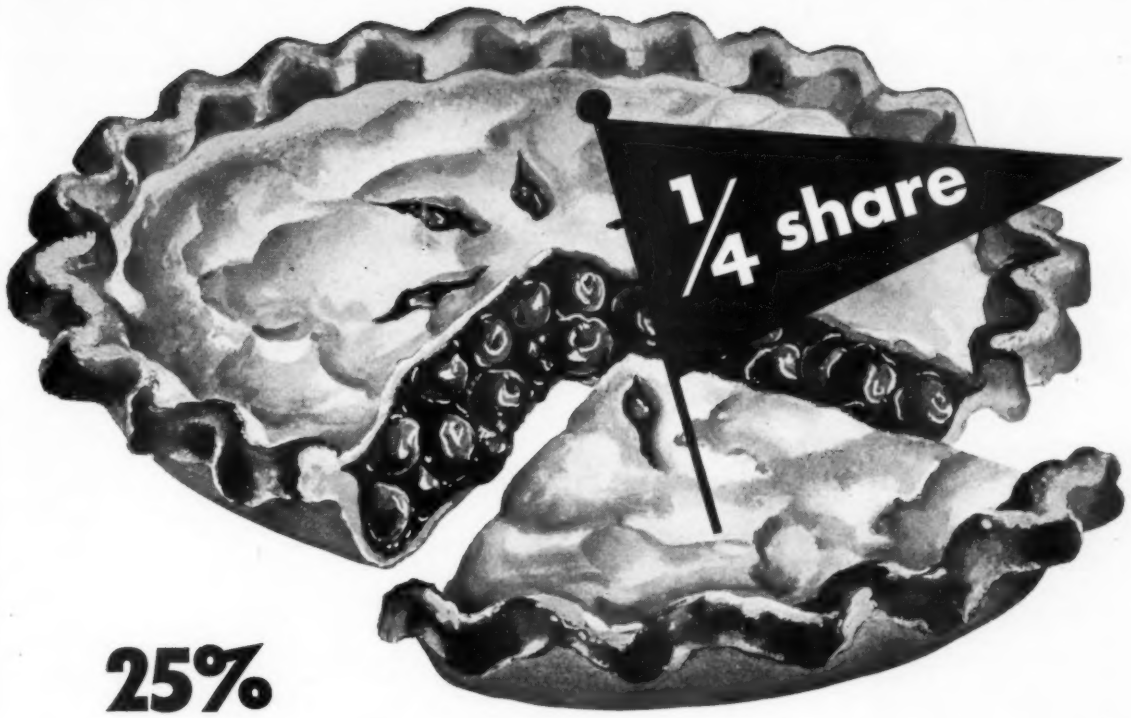
The Society's London stand was in charge of charter members Peter K. Mackenzie and K. L. Wallace, DISI directors respectively for England and Canada. J. Findlay Russell of Scotland, elected a Director-at-large *in absentia* at Miami Beach, was also on volunteer duty in the stand, although he and numbers of others were not specifically named in the following resolution of appreciation adopted in Florida:

"Dairy Industries Society, International, now assembled in its first annual meeting, extends its especial greetings and appreciation to Peter K. MacKenzie and K. L. Wallace, two of its Directors on volunteer duty in the Society's booth at the British Dairy Exposition, and through them its good wishes to all participants and visitors at Olympia among them who are DISI members not able to be present in Miami Beach."

●

ENOZ SPRING PROMOTION

The Enoz Department of the Diversey Corporation announces an augmented national advertising campaign for the Spring of 1948. Featuring Enoz Moth-Proof, the sensational moth-preventative and insecticide which was introduced last year, advertisements will run in national women's service magazines including *Good Housekeeping, Ladies Home Journal, Better Homes and Gardens, McCalls* and *Woman's Home Companion.*



25%
of the Food Dollar Belongs to the Dairy Industry

Think of all the kinds of food there are, competing for a slice of the American food dollar. Think of the tremendous promotion behind them. Then you recognize the size of the task that confronts the dairy industry in attempting to gain its rightful one-fourth share of the food budget.

It takes more than the able promotional efforts of every member of the dairy industry to approach this quota. It takes the widest public *recognition* of the incomparable food values of milk and milk products on the part of the American public.

How the National Dairy Council is helping to gain this recognition

Enlisting the cooperation of leaders in the governmental, professional, educational and consumer fields, the National Dairy Council—official non-profit educational organization of the Dairy Industry—today is reaching more than

180,000 Physicians; 78,000 Dentists;
104,000 Nurses; 1,101,000 Teachers;
86,000 Red Cross Workers; nearly
2,500,000 P.T.A. Members and
2,000,000 Women's Club Members.

Building Tomorrow's Market Today!

Through these educational leaders, fortified with the authentic research and educational material provided by the Council, the knowledge of dairy products nutrition is being impressed on the minds of

27 million school children;
17 million pre-school children;
2 million brides per year; and
21 million people of 20 to 30
years old; to say nothing of
3 million new babies annually.

No amount of commercial promotional effort could accomplish this task. It is the vital, educational function of the National Dairy Council, serving the entire Dairy Industry. Are you a member?

Every Element of the Dairy Industry should be participating

The National Dairy Council and its 50 affiliated units serves every branch of the Dairy Industry—Milk Producers, Milk Dealers, Butter Makers, Cheese Makers, Ice Cream Manufacturers, Equipment Makers. The job it is doing is a *teamwork* job, and all members of every branch of the Dairy Industry should be contributing their support.

How to become a National Dairy Council member

Simply write (or wire or phone) to the National Dairy Council, 111 North Canal St., Chicago, 6, and an application blank, together with full particulars, will be sent you immediately.

EST. 1918
NATIONAL DAIRY COUNCIL

National Dairy Council
111 North Canal Street
Chicago 6, Illinois

A non-profit educational organization promoting national health through a better understanding of dairy foods and their use.

In recognition of the National Dairy Council and its important educational work for the benefit of the entire Dairy Industry this space has been contributed by American Milk Review.

WHAT ABOUT HOUSE ORGANS?

The Editor of *The Sheffield News* Takes You Behind the Public Relations Scene and Shows What It Takes to Make a Company Magazine Tick

By HERB SAAL

Editor, *The Sheffield News*

HERB SAAL

In a world where people are becoming increasingly aware of their fellows, business concerns are attaching great importance to public relations. One phase of good public relations is intra-plant harmony and one of the best ways to achieve this happy state is through the company magazine or house organ. In this article, Sheffield's able young editor shows you the inside of a first class public relations operation.

●

THE SHEFFIELD NEWS, the monthly employee magazine of Sheffield Farms Company, is an instrument used to implement the broad company public relations program of which it is a part.

More directly, "The purpose of the Sheffield News," says F. J. Andre, president, "is manifold. It should promote acquaintance among employees. It should stimulate the interest of each employee in his work and in the organization of which he is a part. It is intended to explain the aims and policies of Sheffield Farms Company. It should discuss the company's accomplishments."

Any article or feature considered for publication in the Sheffield News is evaluated in the light of these stated purposes; the article must further one or more of them if it is to be published.

Let us examine these purposes and see how the Sheffield News attempts to accomplish them.

Promote Acquaintance Among Employees

One way the Sheffield News attempts to promote acquaintance among employees is by publishing accounts of courageous acts by our men in the course of their duties. A photograph of the man involved usually accompanies the story. Whenever possible, the Sheffield News editor tries to obtain and use pictures of the people rescued by our men. In cases of fire, the News man shoots a picture of the milkman and the people saved against the background of a charred room or a burned-out house.

Because they work in the early morning hours when most citizens are still sleeping, many of our men happen to be on the spot when emergencies like fire or escaping gas threaten. They can act quickly to arouse the inhabitants and call the police and fire departments. These incidents provide excellent editorial material not only for the promotion of acquaintance among personnel but also for the building up the reputation of the milkman as a public servant. Stories of this type are sent out to the local press in addition to being used in the Sheffield News.

In fact, the Sheffield News staff looks into the possibility of any of its stories as a general or local press release.

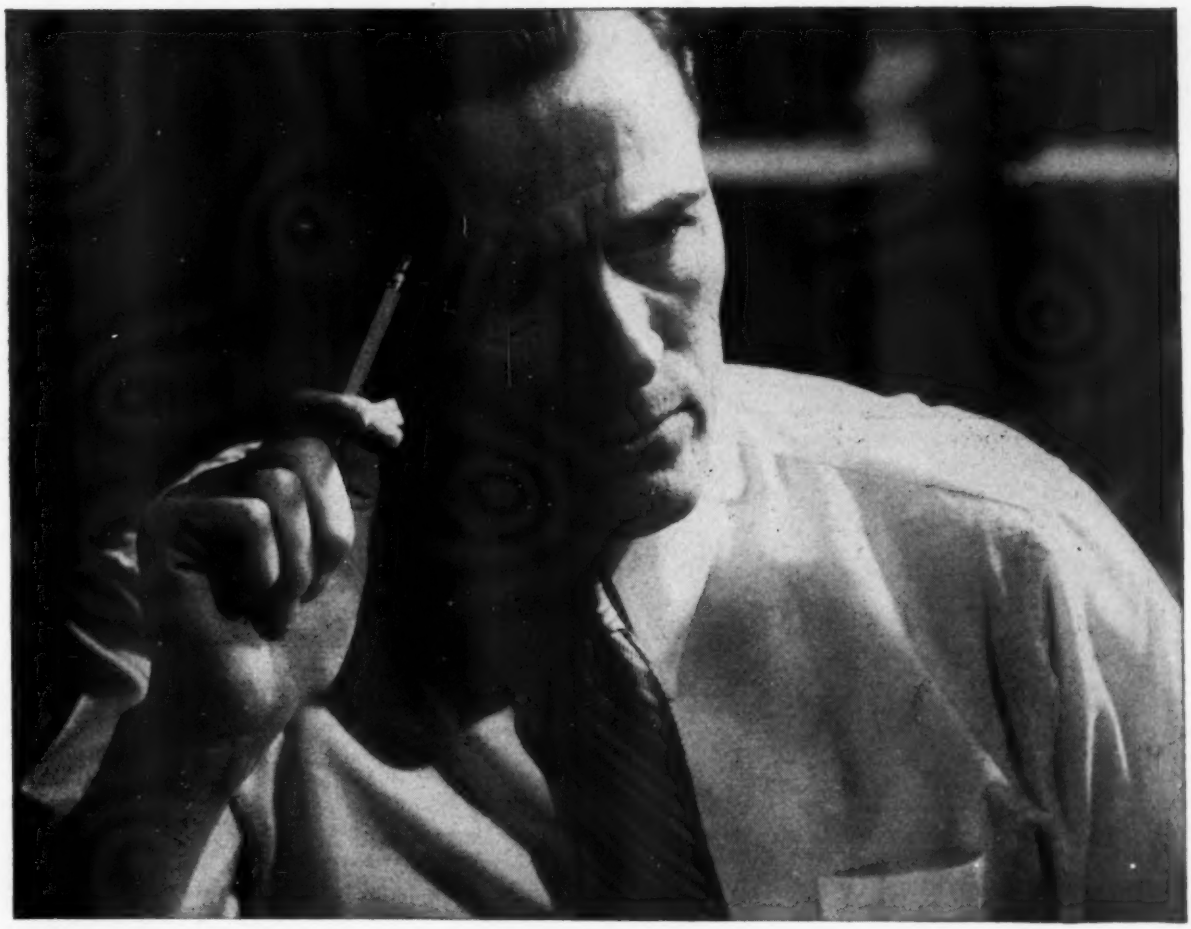
Another way the Sheffield News attempts to promote acquaintance among its readers is through the use of features and picture stories on personalities having interesting after-work avocations. In the past year, for instance, there have appeared in the Sheffield News a story on one of our country receiving station managers in Pennsylvania who is also the mayor of his town; another about one of our men who collects rare records; another on a man who collects stamps; another about two of our men who direct a boys' athletic club on Long Island; another on some of our men in Stamford, Connecticut, who are volunteer firemen; and still others of this same type.

Volunteer Correspondents

Another way that this purpose of promoting acquaintance among employees is furthered is through publication in each issue of columns submitted by volunteer correspondents at the various plants and branches throughout our business. These columns usually deal with births, weddings, deaths, anniversaries, promotions, retirements, transfers, engagements and vacations. Corresponding roughly to the social news section of a newspaper and comprising a special section of their own in the magazine under the heading, "News Notes from the Branches", these regular columns have proved to be one of the most popular features in the publication.

The branch correspondents are variously routemen, salesmen, secretaries and clerks who, prompted by a spirit of company loyalty and cooperation, have voluntarily assumed this extra duty. Although they are not professional writers, they display an unexpected competence in providing readable, interesting, pertinent copy that requires some, but not too much, overall editing.

Using Easter as a peg, Sheffield News tells its readers about the Company's egg business.



When does a man start slipping?

The moment comes to every man.

The moment when he realizes that he isn't the man he used to be . . .

That the days of his peak earning power are over . . .

That some day not so very far away some younger man will step into his shoes.

When does this time come?

It varies with many things.

But of one thing you can be sure. It will come to you as surely as green apples get ripe—and fall off the tree.

Is this something to worry about? Well, yes. But . . . constructively. For that kind of worrying can lead you to save money systematically.

What's the best way to do this? By buying U. S. Savings Bonds . . . *automatically*. Through the Payroll Savings Plan. Or through the Bond-A-Month Plan at your checking account bank.

Either method is an almost foolproof system of saving. It's automatic. You don't put it off. There's no "I'll start saving next month"—no "Let's bust the piggy bank."

And you get back four dollars, at maturity, for every three invested.

So why not take this one step now that will make your future so much brighter?

Get on the Payroll Savings Plan—or the Bond-A-Month Plan—today.

Sure saving because it's automatic—U.S. Savings Bonds

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

Company news—a new retail sales manager is shown being introduced to the shop steward at a Sheffield branch.

Still another way that the Sheffield News endeavors to promote acquaintance among employees is by printing pictures and accounts of different social and athletic activities. Picnics, parties, ball games, and bowling are the source of the bulk of this kind of material.

Stimulate Employee's Interest in His Work

The Sheffield News attempts to accomplish this purpose by publishing articles on the different phases of our business in order to show each individual where his job fits into the whole picture. For example, the man on the route who reads an article about the many tests and checks performed by our laboratory people in order to maintain the highest quality in our milk is more likely to use this point in selling his product to potential customers. He can say not only that Sheffield milk is quality milk, but he can also say *why*.

Another way in which the Sheffield News attempts to stimulate the employee's interest in his work is through publicizing the company Suggestion System and the safety program.

Each month at least one page in the News is devoted to the Suggestion System. Pictures of suggestion system award winners take up most of this space. The back cover is also used from time to time to remind our people to submit suggestions.

Each month also, one or more articles on safety appear. These deal with the company's continuing safe driving program and injury reduction program both in the plant and at home. They also play up the efforts of the individual plants to promote safe work habits.

The Sheffield News attempts to achieve this purpose through the use of editorials, messages from the president and in articles in which these aims and policies are implicit rather than explicit. Such an article is the one in the November 1947 issue describing the new tank trailer now in use in our company which makes for greater efficiency because it has greater capacity. Thus, by implication, this article showed that one of the company's aims was greater economy of operation.

To Discuss the Company's Accomplishments

By reciting the company's achievements in its 107 year history and by showing what the company is doing now in research, manufacturing, sales, transport and other areas of dairy activity, the Sheffield News attempts to accomplish this second purpose.

Though it should not be underestimated, Sheffield believes the history of the company should not be overemphasized in its house magazine. The events of today and tomorrow are much more important than those of yesterday and the day before. References to historical background are, therefore, made judiciously and only in relation to what is going on now.

The staff of the Sheffield News consists of an editor and an assistant editor. They worry over each issue from conception to birth like a busy midwife. It is their task to gather, assemble and edit stories and pictures for each month's publication. They also work closely with the printer on layout and production and supervise the circulation of the magazine.

Leads on articles are obtained through frequent personal contact with potential news sources within our business and through letters to branch managers, plant managers and correspondents, reminding them to inform the Sheffield News of anything that may be of interest to its readers. These letters go into some detail in describing what the Sheffield News wants.

Company executives and department heads are good news sources. The Sheffield News staff keeps in constant contact with them and the key people under their supervision for any new developments in their spheres of activity.

In striving for accuracy and authenticity in each article, the Sheffield News men work very closely with the department and the member of the department who knows most about the subject. The story may involve more than one department and more than one person as was true of a picture story on the remodeling of our Canton, New York, plant, which ran in the September 1947 issue of the News. Originally a receiving station and evaporating manufacturing plant, this plant's facilities were expanded to enable the production of certain chemurgic products.

In order to get all the information necessary for this story, people in the Country Production Department, Chemurgic Products Division, and the Engineering Department had to be consulted. A Country Production Department man accompanied the Sheffield News reporter to Canton and explained the operation to him as the latter took photographs to illustrate the story.

Pictures Are Popular

The Sheffield News is inclining to more pictures and less words in its pages except in the News Notes from the Branches. Even in this section snapshots and cartoons are being sprinkled to break up the monotonous appearance of column after column of solid type.

The majority of the photographs used in the magazine are taken by the News staff. The company provides two Speed Graphic press cameras for this purpose. This has two distinct advantages: one, it reduces expenses by elimi-

Reports of social activities such as picnics, parties, dances, and dinners are a part of good house organ coverage.

nating the need for an outside photographer; and two, the reporter is better able to get the exact picture he wants to illustrate his article. Only in unusual circumstances is an outside photographer brought in.

An article on chemurgic tries to show what is done with surplus milk during the flush season.

Sheffield Farms people are encouraged to submit material for publication in the News. In fact, articles are solicited from persons in the organization who are best qualified to write on them. Thus, there appear articles on safety by the safety director; on transportation by the head of the Transportation Department; and so on.

The News staff proof reads these stories for punctuation, grammer, and conciseness and takes the pictures to go along with them.

Directly responsible to the company's director of public relations, Lawrence K. Grean, the editor must strive to produce each month a magazine in which there is something that will appeal to a wide range of readers. There must be something in it to attract the pert little secretary from the Bronx; something else to attract a receiving station man in Vergennes, Vermont; something to attract a milkman in Rockville Centre, Long Island; and something else again that will catch and hold the attention of all of them.

This is not to say that each issue of the Sheffield News contains this universal appeal; it does not. But that is the ideal set for the News. It is impossible to say how often this ideal has been met.

When the Sheffield Farms man and his family receive his 32-page Sheffield News at home through the mails each month, we hope he has something that promotes the four purposes stated earlier in this article in an entertaining, informative, and educational way.

●

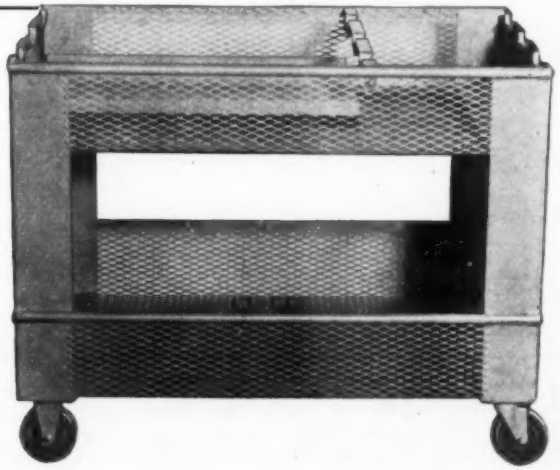
Borden's Honors Employees

Seventeen employes of The Borden Company's Executive offices at 350 Madison Avenue, New York City, have been honored for a quarter of a century or more of service. Awards to twelve men and five women were made at a Quarter Century Club dinner in the Hotel Roosevelt, New York City, on November 12th. Certificates and pins were presented to Theodore G. Montague, president of the company. Of the 17 employes, four were cited for 40 years of service. The principal speaker was Henning W. Prentis, Jr., President of the Armstrong Cork Company and a director of The Borden Company.

Those honored for 40 years service were: Charles Brunner, Traffic-Warehouse; Eugene H. Remick, General Advertising; and William T. Sherwood, Grocery Products.

Awards for 25 years or more were made to: Miss Helen A. Butler, Grocery Products; Mrs. Rita Cerrone, Manufactured Products; Doris Francke, Treasurer's Office; Mrs. Mae A. Marshall, Grocery Products; Mrs. Ella V. Prussing, Casein Division; George Bonhamer, Credit Department Edward H. Bulger, Credit Department; Vinncent J. Dauria, Grocery Products; Frank Mohr, Purchasing; S. Joseph Nieuwenhoff, Flavor Department; Edwin G. Reynolds, M. Augenblick Division; LeRoy U. Smith, Real Estate; Frank J. Torrens, Dry Milk Division; and Harry C. Welch, Grocery Products.

a storeroom on wheels



● that's how to think about the sturdily built Cherry-Burrell Handy-Truk. It's a compact, portable, *safe* and *convenient* place to store dismantled parts when equipment is not in service.

The Handy-Truk is also a convenient means of transporting parts to the wash tank for thorough cleaning. Special holders are provided for mutator shafts, plunger rods, filling valves, etc. Fragile parts can be safely placed on a special wooden tray. And for miscellaneous pieces, there are two perforated metal trays.

If you need a safe place to store parts—see your nearest Cherry-Burrell representative about the Handy-Truk.

Handy-Truk--all construction is spot welded. Large casters assure easy movement.

CHERRY-BURRELL CORPORATION
General Sales and Executive Office:
427 W. Randolph Street, Chicago 6, Ill.
Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

KEFIR FERMENTED MILKS

By L. A. BURKEY

Division of Dairy Research Laboratories
United States Department of Agriculture

KEFIR FERMENTED MILKS are acid milks that have been fermented by means of kefir grains. These fermented milks have a pleasant, agreeable taste and contain about 1 percent of lactic acid, some carbon dioxide, and small quantities of alcohol. Kefir grains, the fermenting agent, are convoluted gelatinous particles obtained from fermented milk of a type commonly prepared in the countries of southwestern Asia. They vary in size from the size of a grain of wheat to that of a hazelnut, and they have a coral-like appearance. They contain lactic acid bacteria and a lactose-fermenting yeast. Kefir grains, probably because they contain a mixture of micro-organisms that are active at low temperatures, provide a fermentation that easily predominates the normal flora of milk and that is adaptable for the production of fermented milks differing in flavor and consistency, depending on variations in the manufacturing process.

Kefir fermented milks can be made easily and with very little equipment. They are well adapted, therefore, for use in the home or for small-scale manufacture.

Kefir grains may be obtained in dry form from the American Type Culture Collection, located at 2029 M Street, N. W., Washington 6, D. C. The charge is $2.35 per culture, which includes the cost of packing and postage. So far as is known, this is the only place in the United States from which kefir grains may be obtained.

To return the dry kefir grains to active condition, soak them for 2 or 3 hours in tepid water, then in a 1-percent solution of sodium bicarbonate for a few hours. Following this treatment, sort out the grains that are swollen, elastic, and clear in appearance; rinse them in water; add them to fresh skim milk at 70° to 80° F. After 24 hours, or as soon as the milk has curdled, transfer the grains to a new supply of milk, and continue making such transfers every 24 hours until the grains tend to rise to the suface during fermentation. This is an indication that the grains have returned to normal activity.

Perpetuation of Kefir Grains

Kefir grains may be maintained in active condition by transferring them often (every 2 or 3 days) into a new supply of skim or whole milk at temperatures from 65° to 75° F. Before transferring the grains to a new supply of milk, rinse them thoroughly by holding them in a metal sieve in clean, cold running water. Drain off the excess water and add the grains to the milk in the proportion of 1 teacup of grains to 1 quart of milk. Transfers need to be made only at weekly intervals when the grains are held in milk at 55° to 60°.

Increase in the number of grains takes place most rapidly in skim milk or in milk of low fat content (less than 1 percent) held at 68° to 70° F. The increase is further accentuated by transferring them every 2 days to a new supply of milk, that is, before excess acid accumulates, and by less rinsing. In case transferring cannot be continued or there is no immediate use for the grains, they should be preserved by drying. Kefir grains can be dried in a short time by placing them between two layers of clean cheesecloth and exposing them in a warm room (85°) before a fan, or in a room with a good circulation of air. The grains can be kept for a number of months in a dry condition and then reactivated when it is desirable.

Preparation of Kefir Milk

Either pasteurized or unpasteurized skim milk may be used in making kefir milk. If unpasteurized milk is used, heat it to 165° F. and cool. If the kefir milk is to be made immediately, it will be necessary to cool the skim milk only to about 70°; otherwise, it should be cooled and held in the refrigerator or ice box until used.

Add 1 part of kefir grains to 3 parts of milk at about 70° F. For example, add 1 cup of grains to 3 cups of milk. Place the milk and grains in unstoppered bottles, but cover the bottles with cloths, inverted cups, or plugs of cotton to protect them from dust. Hold hem at or near 57° to 61°, and stir or shake them frequently. After 8 to 10 hours, strain the milk through a cheesecloth or a metal sieve, to remove the grains, and put it into bottles. Stopper the bottles tightly, and keep them at the same temperature as before. Shake the bottles every few hours to prevent the formation of lumps of precipitated casein.

The kefir milk will be ready for use at the end of 24 hours. If it is held longer than this, or if a less-acid product

USE OUR MICRO CRYSTALLINE WAX TO SOLVE YOUR MILK PACKAGING PROBLEMS

It has been proven that MICRO CRYSTALLINE WAX, added to your other waxes - - -

- IMPROVES ADHESION
- PREVENTS FLAKING
- HELPS TO STOP LEAKS
- EXTENDS OTHER WAXES

Write today for Samples and Literature

BOLER PETROLEUM COMPANY

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is desired, it is advisable to place the milk at lower temperatures or on ice at the desirable stage of acidity to check the fermentation. The grains that are removed from the milk should be washed in clean, cold water. Then they can be added to a new supply of milk.

Preparation of Kefir Buttermilk

Kefir grains can be used in preparing kefir buttermilk as well as in preparing the usual type of kefir fermented milk. Kefir buttermilk closely resembles churned or real buttermilk in flavor and consistency and has proved to be popular when placed on sale along with cultured buttermilk.

Either pasteurized or unpasteurized partially skimmed milk (2- or 3-percent fat content) or pasteurized sweet buttermilk may be used to make kefir buttermilk. Sweet buttermilk is sometimes available from the local creamery if the creamery makes butter from sweet cream, or in the home if butter is churned at home from sweet cream.

If unpasteurized milk is used, heat it to 165° F. and cool to between 68° and 72° if the kefir buttermilk is to be made immediately; otherwise, cool and hold it in the refrigerator or ice box until used. Sweet buttermilk should be pasteurized by heating at 180° for 30 minutes, to expel all the air.

To prepare kefir buttermilk on a small scale, put the grains in a cheesecloth bag. A half pound of grains held in a cheesecloth bag is sufficient to coagulate 2 gallons of milk in 36 to 48 hours at 68° to 72° F.

Place the milk in a porcelain, glass-lined, or granite-iron container. Suspend the bag of grains near the surface of the milk, and incubate the milk at 68° to 72° F. until it is well set up, or until it shows an acidity of about 1 percent in terms of lactic acid. Then lift out the bag of grains, scrape off the adhering cream, and wash the bag thoroughly in cold running water to remove all the sliminess from the outside of the bag and the fermented milk from within. After squeezing the bag to remove the excess water, place it in a new supply of milk and continue as before.

After the grains have been removed, stir the fermented milk slightly to incorporate all the surface cream, and cool to 50° F. or below. Then whip with an egg beater or other slow-speed type of whip to break the curd. After the curd is broken, store the milk in bottles or in its original container at a low temperature until it is used.

To make kefir buttermilk on a large scale, place the milk in a vat and cool it to 68° to 72° F. Suspend a cheesecloth the length and width of the vat a few inches below the surface of the milk, and scatter the kefir grains over the cheesecloth. Cold running water in an outer jacket should be provided or some other arrangement should be made to maintain the milk in the vat at the proper temperature. When the fermentation has progressed to the desired acidity (about 1 percent), lift out the cheesecloth carrying with it the grains and the curdled milk above the cheesecloth. Strain the grains from the milk and return the milk to the vat. Wash the grains in clean, cold water; then they can be added to a new supply of milk.

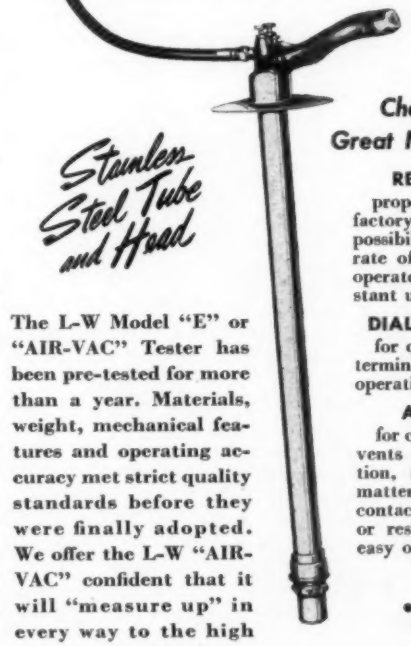
Cool the vat of fermented milk to 50° F. or below and, when it is thoroughly cooled, break the curd by whipping with a slow-running whip or mixer. The curd formed by kefir is fairly soft and unless it is handled carefully it will lack stability and will have a weak body. It is necessary, therefore, to cool the curd thoroughly before it is broken and to break the curd by using a slow-running whip for only a few minutes. After the curd is broken, strain the milk, bottle it, and store it at 40° or lower until it is used.

[1]This leaflet supersedes BDIM-815, Directions for Making Kefir Milk and Kefir Buttermilk.

L-W "AIR-VAC" MILK SEDIMENT TESTER

Air-Line Operated Model "E"

The new L-W "AIR-VAC," air-line operated Milk Sediment Tester is the apparatus you've been waiting for! It connects directly with any air line already installed and operates from your own compressor. Be sure to get the facts about the L-W "AIR-VAC"—a quality, life-time investment!



Stainless Steel Tube and Head

The L-W Model "E" or "AIR-VAC" Tester has been pre-tested for more than a year. Materials, weight, mechanical features and operating accuracy met strict quality standards before they were finally adopted. We offer the L-W "AIR-VAC" confident that it will "measure up" in every way to the high reputation already established by other L-W products.

Check These Great New Features!

REGULATOR
properly pre-set at factory, eliminates any possibility of change in rate of intake by the operator, assuring constant uniformity.

DIAL INDICATOR
for quick, visual determination of proper operating pressure.

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Write for Name of Jobber Near You or Any Other Information.

Dr. Robert F. Holland

PROBLEMS *of the* INDUSTRY

Dr. James C. White

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, New York.

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Farm Cooling

QUESTION—"In our section of the country a great many farm tank coolers for storing milk are being sold. I understand that in a tank where there is no agitator for water, a ten-gallon can of milk can be cooled from 90° F. to about 52° in two hours. If this is true, what would be the development of bacteria in a two-hour period. I am thinking of both the careless producer whose milk has high count before it gets into the tank cooler and also of the careful producer. Can you tell me how bacterial growth will effect the condition of the milk when delivered at the city plant by unfrigerated truck three to five hours later after standing two hours in a tank cooler at about 52° F.?

"Very truly yours, W. F. W.," Ohio.

ANSWER—According to most of the published bulletins as well as data which has been obtained at Cornell University, most farm milk coolers in which the milk is cooled without the agitations of the water or of the milk will not bring the temperature down to 52° F. in two hours starting at 90 to 95° F. If temperatures are taken in the top of the can, it is more usual to find that it takes three to four hours even when an adequate ice bank has been formed on the coils in the electric cooler. This is especially important since about 90 per cent of the organisms in a can of milk are collected in the cream layer. This gets the poorest cooling since warm milk rises and is in contact with the warmest water. It is true that after a period of eight or ten hours the temperature will be down in the neighborhood of 40° F. if an adequate source of refrigeration is available to keep the water temperature below 40° F. It is much more efficient if the water temperature can be kept below 37° F. because at temperatures below this the warmer water is the heavier. Therefore, the colder water layers will be on top in the milk cooling tank and thus will be in contact with the warmest milk. This so-called inversion of the water helps to keep milk under proper refrigeration during storage.

Good Quality Necessary

However, it is an established fact that milk has a property which prevents organisms from growing materially during about the first two hours after it is drawn from the cow. Therefore, if milk is cooled to below 50° F. no significant increase in bacterial population will occur within the first two hours after milking. This is only true if the milk was of good quality initially. If the milk was of relatively poor quality and increase in bacterial population will occur. There are some figures on bacterial increases available, but none which answer your specific question. The U.S.D.A. departmental bulletin No. 642 gives some figures for the growth of bacteria in milk comparing good quality milk supplies and poor quality milk supplies at temperatures of 40°, 50°, and 60° F. At 50° in twenty-four hours milk that has counted about 5,000 organisms per milliliter has increased to 13,000 whereas milk initially at 136,000 has increased to 1,170,000, but at 60° which is more nearly the temperature which will be in effect during the transportation of such milk as you describe in Ohio, the increases in bacterial population are much more pronounced. That is, good quality milk at 5,000 organism per milliliter increases in twenty-four hours to 1,580,000, but milk initially at 136,000 increases to 24,600,000 in twenty-four hours. The increases over a four- or five-hour period would be considerably less, but this at least will give you an indication of what happened to the milk over that longer period of time.

Agitation Essential

There are certain rules which we recommend in the handling and selection of farm milk coolers. In the first place, mechanical refrigeration with water agitation and a sufficient ice bank on the cooler is the satisfactory method of cooling milk on the farm. Cooling milk with well water without agitation is not a satisfactory method unless the water temperature is approximately 48° F. and maintained there during the entire cooling period. This water is usually not obtainable on the average farm during spring, summer, and fall months. If running water is to be used, it should have a temperature of 48° F. or below. Ice is satisfactory, but 5 pounds of ice must be used for each gallon of milk. The The cooler should never be turned off. Most people are recommending that the cooler be set to operate at 37° to 38° F. on a year-round basis.

Morning and Evening Milk

Farm milk supplies should be cooled in a tank-type cooler with an agitator or a spray-type cooler. That is, a cooler which pumps iced water so that it sprays onto the necks of the cans and runs down the sides. If either of these machines

is used, the agitation should continue for at least one hour, and an hour and a half is usually better. If both morning's and evening's milk are to be cooled, the cooling water should be agitated during the cooling of both. The average temperature of the evening milk after twelve hours of cooling may be quite low so that if morning's milk is to be cooled, too, it is usually more efficient to remove the night's milk from the cooler and insert the morning's milk because the temperature of the night's milk would rise anyway and the amount of rise is almost the same whether or not the evening milk is left in the cooler.

Cans should be placed in the cooler in such a manner that there is no possibility for the cooling water to enter the can, but the level of the water in the cooler should be above the level of the milk in the can unless we are using a spray-type machine.

Automatic Levelling Device

We recommend the use of a cooler with an automatic leveling device to bring the water up to a certain level regardless of how many cans have been placed in the cooler. The user of a machine should obtain and follow instructions on the care and use of his machines at the time of installation. He should get reliable service from a good serviceman who understands the machinery and has the proper replacement parts for the equipment the farmer owns.

Information on cooling of milk and the operation of farm milk coolers can be obtained from several of the state colleges as well as from the U.S.D.A. We would recommend U.S.D.A. department bulletin 642, the Pennsylvania State College bulletin 375 and 454, also Oregon State Agricultural College Station bulletin 331, and the University of California bulletin 495.

Roach Control

QUESTION—"Can you give us any information on the control of roaches in a dairy store? We have been operating this store for ten years with very little trouble from roaches, but this summer we are over-run with them.

"Very truly yours, T.T.," New York.

ANSWER—When a building, particularly an old one with lots of cracks and crevices, becomes infested with roaches drastic methods are required for their complete elimination. Often it becomes an unending battle to keep them under control without hope of absolute extermination.

If the building in question can be tightly sealed around the doors and windows and has tight walls to prevent escape of gas, the best solution to the problem is fumigation with methyl bromide or similar gas. This should be done by an experienced pest control operator because of the poisonous nature of these fumigants. Stored dairy products are unharmed by the above gases.

Fumigation is expensive but thorough and precautions must be taken to prevent reinfestation of the building when bringing in supplies.

Powder Has Limitations

Many powders and sprays have been recommended for roach control but none is entirely satisfactory because of the difficulty of reaching all the insects. Sodium fluoride powder has been widely used but must be handled with caution in food plants because of its poisonous nature.

Recently dusts containing DDT and other toxicants have come into widespread use and have received considerable acclaim. One formula is as follows:

Powdered DDT	10%
Tricalcium phosphate	10%
Ground pyrethrum flowers (0.9% pyrethrum or more)	25%
Pyrophyllite	55%

This mixture should be blown into all cracks and crevices, behind switch boxes, pipes, tables, sinks, and other places that may harbor the insects. Weekly treatments are recommended.

New Type Sprayer

We have been experimenting for about a year with a spray which has shown good results. It consists of a portable sprayer, somewhat resembling a flat-iron in appearance and holding about 1 quart of water and 1 quart of spray material. The water is heated well above the boiling point by electricity and steam pressure of about 100 pounds per square inch is generated. When the pressure is up, the sprayer may be detached from the electrical circuit and carried about without further heating until this steam is used up—usually about 15-25 minutes.

When a plunger on the sprayer is pushed down, the insecticide is ejected by the pressure of the steam and the finely atomized material can be blown into all cracks, behind tables, etc. The spray will travel 20-30 feet under full pressure.

An insecticide mixture which will work equally well in the above sprayer or in conventiona hand or electric models is as follows:

Pyrethrum extract (20% concentrate)	10%
DDT	10%
Cyclohexanone	20%
Deodorized kerosene	60%

Let me again emphasize that for good control a spray or dust program must be followed religiously and at frequent intervals.

Challenge Expansion

Big West Coast Cooperative Moves Into the Stockton and Modesto Regions of California

Los Angeles, Calif.—Lester E. Evans, general manager of the Challenge Cream & Butter Association, has announced the entry of this cooperative dairy products organization into the Stockton and Modesto areas. A large warehouse building has been acquired on the premises of the Milk Producers Association of Central California, and a complete remodeling of the building has been completed to accommodate the necessary refrigeration storage and truck facilities in this new area.

"We expect soon to commence distribution of a complete line of Challenge dairy foods to retail dealers, stated Mr. Evans. "The introduction of Challenge dairy foods should almost be like a home-coming party for Challenge, for our butter has been a consistent gold-medal winner at the nearby Sacramento State Fair for ten consecutive years. The outstanding high quality of our butter has been religiously maintained, and that same goodness is honestly reflected in all products marketed by the Challenge organization.

"Challenge dairy foods will be sold exclusively to retail dealers," Mr. Evans said, "and we intend supplying butter, Banner evaporated milk, a complete line of fluid milk and cream products, natural and processed cheese, assorted spread cheeses in glass, powdered milk for the bakery trade, and many other dairy foods of proven high quality.

"As the Challenge organization is a true cooperative, owned and operated by the dairy farmers who actually milk the cows, it was the determination of the farmer-directors to engage in distribution in areas wherever such distribution would benefit these farmer-owners of Challenge.

"The Challenge Cream and Butter Association had its beginning in Tulare, California, in 1910. Since then, under cooperative-farmer management, it has expanded throughout the west. The great San Joaquin valley has been particularly prominent in the growth of Challenge cooperative creamery units. Completely owned by many thousands of dairy farmers in this great valley, these Challenge products are actually the products of the men who milk the cows.

"Due to the more efficient refrigeration and sanitation facilities," Mr. Evans concluded, "all Challenge products will be sold strictly through grocers in the Modesto and Stockton territories. An additional feature is the modern streamlined trucks which will be used in the distribution of Challenge merchandise to dealers."

FLUID MILK PRICES IN CITY MARKETS

FOR NOVEMBER 1947

AS MILK PRODUCTION approached its seasonal low point for the year, fluid milk prices at retail and producer levels continued to rise early in November throughout the country, the Bureau of Agricultural Economics reported recently. The current average retail price is the highest for any month on records extending back through 1919. Short milk supplies and active markets for manufactured dairy products combined with continued strong demand for fluid milk to give fluid milk markets a firm tone in all parts of the country. Milk price advances were particularly widespread in the Middle and South Atlantic areas, but were not quite so general throughout the rest of the country as at this time last year.

October Fluid Supplies Short

Fluid milk supplies became very short in some areas late in October and early in November for the third successive year, but the shortages were less severe this year than in 1946 because of higher production in many areas producing milk for fluid markets. Fluid cream markets early in November were steady or slightly higher after showing some weakness a month earlier.

Retail prices of standard milk delivered to homes in 24 cities early in November averaged 20 cents per quart compared with 19.4 cents per quart in October and 19.3 cents per quart in November 1946. The seasonal increase in the average retail price of milk delivered to homes in these markets since June is 1.8 cents per quart compared with a rise of 3.6 cents per quart during the same period in 1946. At $4.94 per hundredweight, the milk dealers' average buying price for Class I milk early in November in 123 cities was the highest of record and compares with the revised October price of $4.87 per hundredweight and $4.87 per hundredweight in November 1946. Since June of this year the dealers' average buying price has risen 53 cents per hundredweight or 1.1 cents per quart.

Decline in Per Capita Production

Milk production on the Nation's farms in October was 8.9 billion pounds, 1 per cent below a year earlier, and slightly lower than in the 1944-46 period but 5 per cent above the 1936-45 October average. The seasonal decline in production from September to October was 4 per cent, the same as the 1936-45 average decline from September to October. For each of the last 20 months including this October, monthly milk production per cow has been the highest on record dating back to 1930. However, the present very high level of milk production per cow has failed to offset the declining number of milk cows and October milk production per capita averaged only 2.0 pounds per days. This is the lowest per capita milk production rate for any October since 1939. Per capita daily milk production during October has fallen below 2 pounds only 4 times in the last 17 years. This level of supply together with strong demand for dairy products has intensified the already keen competition among different wholesale buyers of milk.

New England Area

On November 1 the Class I price advanced 30 cents per hundredweight in most city markets in Connecticut. Hartford reported a retail price increase of one cent per quart on the same date. On October 16 the Maine State Milk

November 1947 Fluid Milk Prices in City Markets

MARKETS	DEALERS' BUYING PRICES (F.O.B. CITY) Used for FLUID MILK[1]					SELLING PRICES[2] WHOLESALE					RETAIL			Fat test of milk most commonly sold by dealers
	Paid for milk of basic fat test per cwt.	Basic fat test	Allowance 1/10% butter fat	Paid for or adjusted to 3.5% fat per cwt.	Used for FLUID CREAM 3.5% fat basis per cwt.	In bulk 5-20 gal. lots per gal.	Bottled per quart	Delivered to homes			Stores			
								Per single quart	2-qt. containers	4-qt. containers	Per single quart	2-qt. containers	4-qt. containers	
	Dollars	Pct.	Cents	Dollars	Dollars	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Percent
Alabama(S)														
Birmingham	6.10	4	5.0	5.85	—	—	19	22	—	—	21	—	—	3.7
Mobile	6.30	4	5.0	6.05	—	76	19	22	—	—	22	—	—	4.0
Arizona														
Phoenix	D.R.	—	14.6	5.11	—	—	—	19	36	—	18	35	—	—
Tucson	—	—	—	—	—	—	18	20	40	—	—	—	—	3.5—3.8
Arkansas														
Little Rock	D.R.	—	13.0	4.55	—	68	17½	20	—	—	20	—	—	3.5—4.0
California(S)[3]														
Fresno	D.R.	—	12.3	4.30	4.30	58—59	16	18½	37	—	18	36	—	4.2
Los Angeles	D.R.	—	13.45	4.71	4.71	55—57	15½	18½	37	—	17½	35	—	3.5
Sacramento	D.R.	—	12.4	4.34	4.34	57	15½	18½	36	—	17½	34	—	—
San Diego	D.R.	—	13.7	4.80	4.80	56—57	16	19	38	—	18	36	—	—
San Francisco	D.R.	—	12.9	4.52	4.52	57—58	16	19	38	—	18	36	—	3.6
Santa Barbara	D.R.	—	13.3	4.66	4.66	58—59	16	19	38	—	18	36	—	—
Colorado														
Colorado Springs	D.R.	—	13.8	4.83	—	64	16½	19	—	—	19	—	—	3.8
Denver	D.R.	—	13.7	4.80	4.44	62	16	19	37	—	18	36	—	3.2—3.6
Connecticut(S)														
Hartford	6.06	3.7	6.0	5.94	3.80	—	—	21	—	—	—	—	—	3.7—3.9
Dist. of Columbia														
Washington	6.43	4	6.0	6.13	[4]4.38	53—67	18	21	—	—	19—22	—	—	3.8—4.1
Florida(S)														
Jacksonville	6.85	4—5	—	6.85	—	82	22	24	—	—	[5]24—25	—	—	4.0—5.0
Miami	6.744	4	5.8	6.45	—	84	22	[5]24—25	—	—	[5]24—25	—	—	4.0—4.2
Idaho														
Boise	D.R.	—	10.8	3.78	3.32	59	16	18	34	—	18	34	—	3.5—4.0
Illinois														
Chicago(F)	4.525	3.5	—	4.52	4.12	70—76	19	22½	44	86	20½	39	—	3.5—3.65
Quincy	4.50	3.8	5.0	4.35	—	52	15½	18	—	—	18	—	—	3.8
Rock Island	Not determined					60	15½	18	—	—	17½-18	—	—	3.5—3.62
Springfield	4.70	4	5.0	4.45	4.45	60	17½	20	—	—	19—20	—	—	3.9
Indiana														
Evansville	D.R.	—	11.9	4.16	3.99	62	16	18	—	—	18	—	—	3.8
Fort Wayne(F)	Not determined					66	16½	19	—	—	18—19	—	—	3.6
Gary						70	18½	21	—	—	21	—	—	3.5

Control Board raised retail prices one cent per quart in Maine's larger markets. The retail price in most of these markets is either 20 or 20.5 cents per quart. Boston milk dealers are supplementing local supplies with milk obtained from beyond the usual Boston milkshed, but may not need to continue bringing in "emergency" milk after December 1.

Middle Atlantic Increases

In the Middle Atlantic area price increases of one cent per quart for milk delivered to homes and sold from stores were reported from New York City and Buffalo in New York State and from Johnstown and Pittsburgh, Pa. The retail price increases in New York City and Buffalo were not accompanied by any increase in the producer price. In the two Pennsylvania markets there occurred simultaneous producer price increases of 25 cents per hundredweight at Johnstown and 33 cents per hundredweight at Pittsburgh. There were some supply shortages in fluid milk markets. In this area Philadelphia milk dealers were bringing in some milk from "outside" sources. The fluid milk requirements of the New York City market were causing an increased diversion of milk from manufacturing plants in the milkshed but total supplies were more than adequate for all fluid milk and cream uses.

South Atlantic Prices Up

Several price increases at both producer and retail levels were reported from city milk markets in the South Atlantic area. The Baltimore, Md., market reported a producer price increase of 35 cents per hundredweight and one cent per quart at retail on November 6. In the Washington, D. C., market the producer price rose 46 cents per hundredweight and the home delivered price 1½ cents per quart. Milk sold from stores rose two cents per quart. Elsewhere in the South Atlantic area the Charleston and Wheeling, W. Va., markets both reported producer price increases of 30 cents per hundredweight and one cent per quart. The Jacksonville, Fla., market reported an increase of 59 cents per hundredweight in the producer price and 2 cents per quart at retail bringing the producer price to $6.85 per hundredweight and the retail price to 24 cents per quart.

West and Far West

The Dallas, Texas, market reported a producer price increase of 30 cents per hundredweight and one cent per quart at retail. In Denver, Colo., the producer price was advanced 18 cents per hundredweight and retail prices one cent per quart on October 16. The Boise, Idaho, market, however, reported a decline of 24 cents per hundredweight in the producer price. Retail prices in the market were unchanged. In Montana the State Milk Control Board increased retail prices in the Helena and Great Falls markets 3 cents per quart. Producer prices were increased .64 cents per hundredweight for milk of 4 per cent butterfat content in Helena and 80 cents per hundredweight in Great Falls.

From the Pacific Coast the Portland, Ore., market reported a producer price increase of 72 cents per hundredweight and a retail price increase of 2 cents per quart.

NOVEMBER, 1947, FLUID MILK PRICES IN CITY MARKETS
FLUID MILK PRICE CHANGES—NOVEMBER, 1947

City	Dealers' buying prices F.O.B. city Class I Milk (3.5% fat basis) Per Hundredweight			Retail price per quart delivered to homes		
	November 1947	October 1947	November 1946	November 1947	October 1947	November 1946
	Dollars	Dollars	Dollars	Cents	Cents	Cents
New England:						
Hartford, Conn.	[1]5.94	5.64	6.08	21	20	21
Middle Atlantic:						
Buffalo, N. Y.	5.80	5.80	.....	21	20	....
New York, N. Y.	6.08-6.32	6.08-6.32	6.08-6.32	[2]23½	22½	22
Johnstown, Pa.	[3]5.20	4.95	4.95	20	19	19
McKeesport, Pa.	[4]5.38	5.05	5.05	20½	19½	19½
Pittsburgh, Pa.	[4]5.38	5.05	5.05	20½	19½	19½
East North Central:						
Quincy, Ill.	[5]4.35	3.90	.....	18	16	....
Milwaukee, Wis.	4.80	4.80	4.85	[6]18	16	18
West North Central:						
Wichita, Kan.	.....	[6]4.75	5.29	19	18	19
Duluth, Minn.	4.31	4.67	5.20	18	18	16½
Omaha, Neb.	.....	4.63	5.36	[7]18	17½	18½
South Atlantic:						
Washington, D. C.	[8]6.13	5.67	5.66	21	19½	19½
Jacksonville, Fla.	[9]6.85	6.26	6.28	24	[10]22—23	23
Baltimore, Md.	[9]5.65	5.30	5.40	20	[10]19	19
Charlestown, W. Va.	[3]5.60	5.30	4.90	22	21	21
Wheeling, W. Va.	[11]4.95	4.65	4.85	20	19	19
West South Central:						
Dallas, Tex.	5.25	4.95	4.95-5.05	20	19	19
Mountain:						
Colorado Springs, Colo.	4.83	4.62	4.38	19	18	17
Denver, Colo.	[3]4.80	4.62	4.62	19	18	18
Boise, Ida.	3.78	4.02	4.30-4.41	18	18	17
Pacific:						
Portland, Ore.	[3]5.42	4.70	4.80	19	17	18

[1]Effective November 1. [2]Effective October 25. [3]Effective October 16. [4]Effective October 10. [5]Effective November 3. [6]Effective September 16. [7]Price reduced ½c per quart Oct. 11 and advanced 1c per quart October 31. [8]Effective October 19. [9]Effective November 6. [10]Correction: Price from July 7 to Nov. 5, 19c per quart. [11]Effective October 27. [12]The higher price is for milk in paper containers.

NOVEMBER 1947 FLUID MILK PRICES IN CITY MARKETS
NET PRICES PAID MEMBERS OF PRODUCERS' ASSOCIATIONS[1]

City	3.5% milk per cwt.		per cwt. butter market except as noted) Previously announced dealers' buying prices for same period	
	3.5% milk[2] per cwt.		Basic or per cwt.	butter market except as noted
	Dollars	Month	Dollars	
Hartford, New Haven and Bridgeport, Conn.	[3]5.97	Sept.	5.67	
Washington, D. C.	[3]5.97	Sept.	5.67	
Chicago, Ill.	[4]4.22	Sept.	4.35	All milk pooled
Louisville, Ky.	[5]5.05½	Oct.	4.73	
Baltimore, Md.	5.30	Sept.	5.30	
Boston, Mass.	[6]4.68	Sept.	5.01	
Detroit, Mich.	4.11	Sept.	4.60	
St. Paul and Minneapolis, Minn.	4.11	Oct.	4.32	All milk pooled
St. Louis, Mo.	4.85	Sept.	4.96	
New York, N. Y.	[7]4.54-4.60	Sept.	5.02	
Akron, Ohio	4.80	Sept.	4.80	
Canton, Ohio	4.64	Sept.	5.00	
Cincinnati, Ohio	4.71	Sept.	4.96	
Cleveland, Ohio	4.73	Sept.	4.79	
Columbus, Ohio	4.58	Sept.	4.64	
Dayton, Ohio	4.64	Sept.	4.34 (1-9) 4.74 (10-30)	
Toledo, Ohio	4.60	Sept.	4.71	
Pittsburgh, Pa.	4.85½	Sept.	5.05	
Providence, R. I.	5.54	Sept.	5.59	
Richmond, Va.	5.32	Sept.	5.35	
Seattle, Wash.	4.76½	Sept.	5.08	
Charleston, W. Va.	5.30	Sept.	5.30	
Milwaukee, Wis.	4.56	Oct.	4.80	

[1]Net prices reported paid to members of producers' associations supplying the cities listed. Dealers' buying prices announced in advance for such cities are usually of two classes: (a) prices paid for base amounts for individual producers or prices paid for Class I milk, and (b) prices paid for surplus milk. The former applies to that portion of the milk used in fluid form for city wholesale and retail trade, and the latter to that portion classed as "surplus" used for manufacturing purposes. [2]F.O.B. city unless otherwise indicated. [3]Includes average premium of 37c per cwt. and 43c seasonal payback. [4]70-mile zone. [5]Includes 40c per cwt. fall production premium paid producers. [6]191-210 mile zone. [7]201-210 mile zone.

AVERAGE WHOLESALE PRICES 92 SCORE BUTTER OCTOBER 1947[8]

Market	Oct., 1947	Sept., 1947	Oct., 1946
New York	71.79c	80.23c	84.04c
Chicago	70.11c	79.19c	83.18c

[8]Market News Service, Production and Marketing Administration.

WHAT HAPPENS *to* VITAMIN A

National Dairy Council Reports the Effect of Production Methods and Handling on the Vitamin A Content of Dairy Products

There are many things that a trade association can do. Perhaps not as spectacular as some of its promotional work but none the less valuable is this discussion of the Vitamin A content of dairy products by the National Dairy Council. The worth of a nerve center to which the information of a huge industry may be channeled is amply demonstrated here.

●

DAIRY products are widely depended upon as a source of vitamin A for both children and adults. This fat-soluble vitamin is present in milk fat both as pure vitamin A and as carotene. The conditions which influence the vitamin A activity of milk and milk products are exceedingly important. This is evident from the surveys that have already been made of the vitamin A value of dairy products under various prevailing conditions (1, 2). High points of many research studies which pertain to the vitamin A potency of milk, butter, cheese, and ice cream from production to consumption will be presented here.

Factors in Production

From the standpoint of production, the feed of the cow is the only factor causing variation in the vitamin A value of milk. Except for the temporary contribution which can be made by body reserves, the vitamin A value of milk produced is dependent upon the amount of carotene present in the ration of the cow (3, 4). Of the natural feeds, pasture results in milk richest in vitamin A activity, but nearly as great a potency can be obtained by feeding properly cured alfalfa, dried grass, or corn silage (4). Milk with a high vitamin A value has also been produced by feeding concentrated sources of the vitamin, notably fish-liver oils (5).

The variations in the vitamin A value of milk which result from different kinds of feed reflect the season of the year in which milk is produced since summer feeding conditions differ from winter feeding conditions in most regions of the country. To determine the significance of the seasonal variations and the actual contribution that milk and butter make toward the vitamin A needed in the diet, a nationwide survey was made by the United States Department of Agriculture in cooperation with 20 state agricultural experiment stations.

Report of Governmental Study

The report of this extensive study (2) indicates that 64% of the creamery butter produced is "summer" butter which was found to have an average vitamin A potency of 18,000 I.U. per pound. "Winter" butter comprised the other 36% and had an average potency of 11,200 I.U. of vitamin A per pound. It was calculated from these data that the average vitamin A potency of the total output of creamery butter in the United States is approximately 15,000 I.U. per pound. The average vitamin A potency of milk (on the basis of a 4% fat content) was calculated to be 1,800 I.U. per quart for "summer" milk and 1,140 I.U. per quart for "winter" milk. Since 60% of the milk consumed is "summer" milk and 40% "winter" milk the average vitamin A potency of the milk consumed annually is approximately 1,500 I.U. per quart.

The report points out that much of the milk and butter now produced in summer have vitamin A values as high as 2,500 I.U. per quart and 20,000 I.U. per pound, respectively. Present practices in dairy farming, reflecting research on feeds and feeding practices, show a trend toward raising the vitamin A content of "winter" milk and butter to a level as high or higher than the present level in "summer" milk and butter and thereby levelling off the variation that exists between the two seasons.

Factors in Handling

Although different breeds of dairy cattle produce milk with different proportions of carotene, which is yellow, and true vitamin A, which is colorless, there is no real difference in the actual vitamin A potency of the milk fat. Thus, when cows are fed equivalent rations, butterfat which is very light in color has fully as high a vitamin A value as that which is deeper yellow (4).

The antioxidants which naturally occur in milk fat appear to be very effective in protecting its vitamin A from destruction by oxidation during the various processes to which milk and butter may ordinarily be subjected.

A study on milk shows that irradiation has no effect on either the vitamin A or carotene (6). No evidence was found in the literature of losses in vitamin A due to pasteurization. Likewise, there is no evidence of loss of vitamin A as a result of evaporating milk. An extensive study of spray-dried whole milk indicates that if any loss occurs during its manufacture it is less than 10%. Also storage losses are small for both inert-gas-packed and air-packed whole milk powder at room temperature but increase slightly with increases in temperature (7). A summary of studies on butter conducted by seven state experiment stations (2) indicates that both carotene and vitamin A in butter are very stable under the conditions tested and that little if any loss of vitamin A potency occurs during the periods that commercial butter is ordinarily stored.

Action of Light and Heat

Experiments designed to determine the effects of light, atmospheric oxygen and temperature on the vitamin A and carotene in milk fat have been reported (8). The data obtained indicate that, in general, oxidation of both vitamin A and carotene is accelerated by light and heat when the milk fat is stored in the presence of atmospheric oxygen. However, the milk fat can be stored for several months even at 60°C. without loss of either vitamin A or carotene providing the gaseous oxygen is removed and the fat is sealed in a completely filled, light-proof container. Also, rapid precooling as compared with slow cooling of milk fat retards the destruction of vitamin A and carotene when it is stored in containers which are open to the air but which protect the fat from light.

Vitamin A in Cheese

Since most of the fat of the original milk is retained in cheesemaking, much of the fat soluble vitamin A should also be present in the finished product. One study (9) reports the vitamin A potency to be distributed as follows in Cheddar cheese making: 85% retained in cheese; 7% in the whey; 8% unaccounted for. The authors suggest that the unaccounted losses probably occurred through adherence of milk fat to containers and equip-

(Please Turn to Page 69)

*Corresponding information on riboflavin and thiamine appeared in the July 1947 and September 1947 issues of **Dairy Council Digests.***

The Rubber Outlook

By HERBERT E. SMITH
President, United States Rubber Company

THE DEMAND FOR PRODUCTS of the rubber industry will continue at a high level in 1948, according to present indications.

Total production of the industry for the coming year is expected to reach $2.5 billion or more than two and one-half times the volume of 1940, the prewar record year.

This will compare with an all-time high of approximately $2.7 billion in 1947.

A total of 905,000 long tons of natural and synthetic rubber is expected to be used in 1948, against the all-time high consumption of 1,110,000 long tons forecast for 1947.

Although production of most rubber products in 1948 will equal or exceed that of 1947, tire production will probably recede from the all-time high of just under 100 million casings in 1947 to a total of 83,000,000 casings in 1948.

Output of rubber footwear will be further increased in 1948 although production in 1947 was substantially greater than prewar.

The re-introduction of style and color has been a strong influence in footwear and this is expected to continue.

The active demand for rubber clothing and coated fabrics will continue.

Foam rubber, firmly established as cushioning in all transportation fields, will be increasingly available through 1948 for domestic furniture and mattresses. New plant capacity and the increased supplies of natural rubber will help this rapidly growing industry.

With the return to natural rubber achieved, output of Lastex yarn in 1948 is expected to surpass prewar levels. Facilities have been increased to meet broad expansion in the use of this yarn.

Industrial rubber products will be made in large volume. Most items will be in ample supply but conveyor belts will be short for several months.

Production of golf balls, bathing caps and druggist sundries has been facilitated by the return of natural rubber and this merchandise will be in ample supply although the demand will continue at a high level.

During 1947 consumption of natural rubber exceeded synthetic for the first time since 1943. The return to natural rubber will be further advanced in 1948 as 550,000 long tons of natural is expected to be used with 355,000 long tons of synthetic, according to present estimates. About 61 per cent of all rubber used in 1948 will be natural. In 1942, 96 per cent of all rubber was natural while in 1945 the use of natural rubber reached a low of only 13 percent.

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The alternate method is simple—good alkaline products will remove fats, greases and heavy soils, but may not always control lime-stone and stains; organic acid products are excellent at removing and preventing lime desposits, stains, milkstone and hard water precipitates.

Through exhaustive experimentation we have found that a washing schedule which alternates three days organic acid and two days alkaline maintains the perfect balance for most efficient cleaning of milk cans.

We recommend Acid Klenz, one ounce to each five gallons of water for the original acid charge; CBS Cleaner, one ounce to each five gallons for the alkaline charge. In both cases, add one ounce for each 75 cans washed. Follow recommended procedure for truly sparkling milk cans.

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TUBERCULOSIS FIGHT GOES ON

It Took 30 Years and 250 Million Dollars to Bring Bovine T.B. Under Control but it is Still a Threat to the Livestock Industry

The old maxim that "Eternal vigilance is the price of liberty" may logically be applied to the war on bovine tuberculosis. In a timely discussion before the United States Livestock Sanitary Association Dr. E. V. Moore points out that the disease is still at work. Although only a relatively few infected cattle remain they constitute a threat to clean animals. Only complete eradication of the disease will free the livestock industry from the necessity of vigilance.

•

DISREGARDING ALL OTHER benefits, the vast saving in beef alone has more than paid for all the federal, state and county expenditures of 250 million dollars in 30 years toward the eradication of bovine tuberculosis in the nation, the United States Livestock Sanitary Association was told at its 51st annual meeting. The remnants of the disease are yet to be wiped out. New York has a plan for doing it.

Dr. E. V. Moore, Assistant Commissioner of the New York State Department of Agriculture and Markets, in a paper prepared for delivery, cited the beef-saving advantage as evidence that "the conservation of our tuberculosis-free herds of cattle is economically sound." He said that despite the enormous accomplishments under the test-and-slaughter program, the eradication of bovine tuberculosis from isolated centers remains one of the greatest economic problems in disease control, and added that in the beginning great educational campaign was required preceding the actual program, since many responsible people, including breeders, opposed the testing procedure. It took 30 years and 250 million dollars appropriated by the federal government, the states and the counties to bring this disease under control. As a result of concerted effort, the national percentage of infection has been reduced to less than one-fourth of one per cent. Nearly four million reactors to the tuberculin test have been slaughtered.

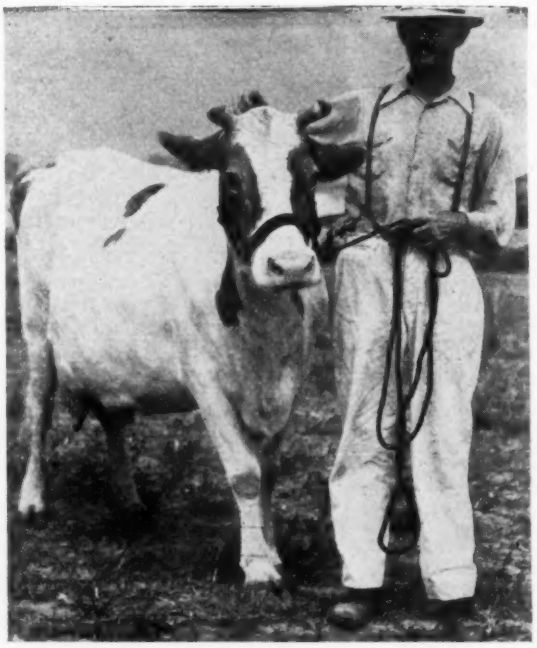
Campaign in New York

"In New York State," Dr. Moore said, "such an eradication campaign threatened to be particularly hazardous to the dairy industry because of our large cattle population and high percentage of infection. Our state has spent more than sixty million dollars in addition to the millions spent by its counties and the federal government to reduce the average infection from 26.6 per cent to .15 of one per cent. In New York State — and I assume this to be true throughout the United States — the decrease in the number of reactors and the lowering of the percentage of infection have created the impression that bovine tuberculosis is eradicated and that our Bureau of Animal Industry has been relieved of most of its work in connection with this disease. This is far from the truth. Bovine tuberculosis is still a threat to our livestock industry. The conservation of tuberculosis-free herds is just as important as their creation. They must be retested regularly to prevent re-infection.

"Provided we keep the disease under control," the New York State official, himself a veterinarian, declared, "the saving in beef alone will continue to pay for the program over and over again in the years to come. In other words, the great economic saving to the livestock owners and the benefit to the human family because of a safer milk supply really have cost nothing. Tuberculosis eradication has been a paying investment and a great tribute to the livestock officials and the army of veterinarians who made it possible. It is the first time that any contagious disease of such widespread and vast economic importance has ever been brought under control in an entire nation.

"The small percentage of cattle left which harbor the infection can extensively recreate the disease in a very short time. Our Bureau of Animal Industry, in a cooperative program with the New York State Veterinary College, worked out a plan for complete eradication. It is primarily a plan of procedure for problem herds and so far the results have been practical and effective. Our program is sound and we are getting results.

"Like a smoldering forest fire, bovine tuberculosis can spring into full force again if not entirely stamped out. I hope



More than seven tons of milk with a butter fat test that averaged 5.7 per cent qualified Primrose Lea of Burger's Place as a new world's champion in the four year old guernsey class. She produced 802 pounds of butter fat in 305 days of two time milking.

This spendid animal, shown with her owner Mr. Burger of Encinitas, California, is one of the reasons for vigorous action on the tuberculosis front. Regardless of high or low estate there is no immunity from bovine T.B. except in complete eradication of the disease. It can be done.

that all agencies which brought the disease under control in this country will reunite in a final effort to extinguish the last remaining sources of infection. Constant vigilance is the premium we must pay to insure the continuance of our present favorable economic position."

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Gov. and Scoop Scoop Scoops

SOME DAYS YOU CAN'T MAKE a dollar and then along comes a day when you make a dollar and a half. Also if you make a better grain scoop the world will not beat a path to your door unless you can tell the world about it.

Dame fortune looked down on the Robson Corporation of New York last month and smiled a pleasant smile. It happened in this manner.

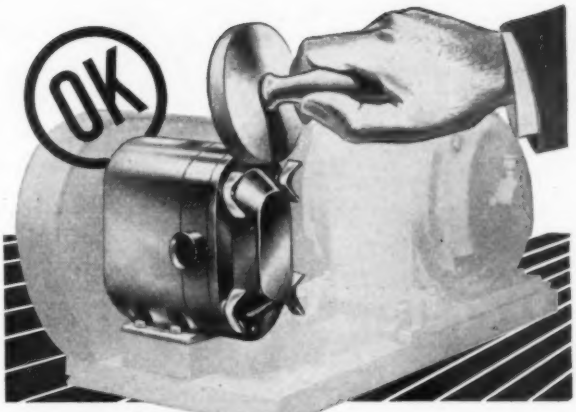
The Robson Corporation manufactures a grain scoop that weighs grain by means of a scale built into the handle. It is a nice instrument and consequently was exhibited, not very

New York State's Governor Thomas E. Dewey, a farmer in his own right, looks pleased as he tries out something new in scoops.

long ago, at the Rhinebeck, N. Y. Fair. At the fair was Governor Thomas E. Dewey, a farmer by avocation, who saw the scoop. Not only did he handle the scoop and say it was a "marvelous labor saver" but he had his picture taken, scoop in hand, with a smile of pleasure giving just the right touch.

But the kind lady did not stop with the Governor. The well known grain conservation program was just swinging into action. Save grain was the watchword. Save grain by not eating meat. Save grain by not eating poultry. Save grain by care on the farm. And the scoop was there ready, willing, and able to save grain.

Such is the stuff from which dollar and a half days are fabricated. Such also is the way in which you can tell a lot of people about your scoop. The Governor really liked it too.



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RISING DAIRY COSTS SEEN

National Cooperative Milk Producers Federation Looks for Rough Year in 1948 — Tariff, Grain Prices, Exports Listed as Factors

DAIRY FARMERS FACE 1948 under the severest blow ever aimed at their solvency – a reduction in tariff rates of about 50 percent under 1945 levels, according to a year-end summary of the industry by the National Cooperative Milk Producers Federation.

The effects of the tariff cuts may be quickly felt by farmers after the first of the year, the Federation predicted. They may affect unfavorably the other factors in the picture, chief of which are:

1. Continued high levels of milk consumption bolstered by the contribution of European relief programs to high domestic purchasing power.

2. The likelihood of higher dairy prices which, in turn, are offset by rising production costs.

3. The threat of lower milk production caused by high costs and the attractiveness of other livestock enterprises and accentuated by reduced milk cow numbers.

Butter Duty Lowered

Whether or not the effect of the January 1 tariff cuts granted to the world at large in the General Trade Agreement signed last October are felt immediately, their implication for the future of dairying is inescapable, the Federation stated. Even in the face of continued world shortages of dairy products, they may nevertheless pour into the United States because of the even greater scarcity of dollars in world markets.

Butter tariffs in the new schedule have been lowered 50 percent to seven cents per pound, the lowest American tariff on butter since 1921. Not more than 50,000,000 pounds imported between November 1 and March 1 in any season can take the low rate, but that quota exceeds any year's imports of butter in our history. When 37 million pounds of butter were imported in 1921 at a six-cent rate the repercussions on domestic butter prices were a factor in the enactment of an eight-cent tariff the following year. World production of butter has increased since then, and in 1935 we imported 23 million pounds at a 14-cent rate.

Duty reductions become effective January 1, 1948, on 15 dairy products beside butter. The reductions range up to the full 50 percent of the previously effective rate, as permitted by the Trade Agreements Act as extended in 1945. The duty on whole milk is now 31 percent of the rate in the Tariff Act of 1930, and on cream it is 35 percent of the rate in the 1930 Act.

High levels of milk consumption and high prices will not be unmixed blessings to milk producers, the Federation declared. European relief also means high grain prices and feed costs, which will bear most heavily on dairymen along the nation's coasts.

Costs and Prices in '48

Dairy prices have lagged in the general upward movement of prices since controls were removed. The spurt of dairy prices which followed immediately upon the removal of controls was cancelled by price declines in the first half of 1947. Each month since April 1947 prices received by farmers for whole milk in the United States have averaged lower than in corresponding months of 1946 (considering the subsidy payments in May and June, 1946).

Looking forward to 1948, the domestic situation would lead to an expectation of higher dairy prices. The low level of dairy prices in 1947 was an over-correction for the 1946 fall spurt, which in turn was inflated by underproduction and understorage of milk and dairy products immediately preceeding the demise of OPA. Consumer incomes have risen substantially during the past year, the rise of incomes, offsetting to a large degree, the increasing availability of consumer goods and rises in the general level of prices. Consequently, prices that might have seemed high in late 1946 would not be reasonable from any point of view balancing producer and consumer interests.

Dairy costs have risen continuously during 1947, and the trend seems certain to carry well into 1948. The corn crop damage and the pressure of grain experts have carried feed prices to record heights. No relief is in prospect before harvest time next fall. Farm wage rates are rising under the pressure of urban employment opportunities. Costs of production supplies, milking machines, etc., continued to rise even while dairy prices were falling, and probably will continue to rise for some months before they fully reflect all the wage, freight rate and basic material cost increase that have occurred up to the end of 1947.

Volume of milk production in 1948 may suffer most in the inland areas, where the prices of grain and livestock prices other than milk will carry a substantial advantage over dairy prices.

Feed Will Be Problem

While dairy production costs have risen, competition of other livestock for available feeds has grown exceedingly keen. The butterfat: hog price ratio, for example, has been lower on only two other occasions – in 1917 when hog prices temporarily ran wild, and again in 1935 when one of the smallest pig crops on record coincided with a pick-up in consumer demand. In other words, the Iowa farmer who has a choice between feeding his scanty corn crop to either dairy cows or hogs (and Iowa last year produced over one sixth of the nation's butter, as well as one fifth of the hogs) is under strong economic pressure to feed the hogs and let the bossie go.

The dairy production outlook for 1948 also faces the handicap of reduced milk cow numbers. For the third successive year the nation's dairy herd has been reduced in size. Numbers of replacement animals have been more than adequate for prewar rates of milk cow turnover, but cows have been eliminated from dairy herds at record rates. Continued heavy culling seems certain as long as meat prices are high and as long as dairy production costs make all but the highest producing cows unprofitable.

Total milk production in 1947 will be over 120 billion pounds, midway between last year's 119.7 billion pounds and the record of 121.5 billion pounds in 1945. Production in 1948 is certain to decline. A new record for cheese production was set in 1947, but smaller output is likely in 1948. Butter production was slightly larger in 1947 than in 1946, but the 1948

output may show little change. Supplies of milk for use as fluid milk, fluid cream and ice cream will depend on having prices adequate to maintain production levels and to even out seasonal production patterns in specialized fluid milk areas.

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Visits University of Massachusetts

Hungarian Dairyman Impressed With Food Technology and Dairy Industry Branches at Bay State Institution

The University of Massachusetts played host to a distinguished Hungarian recently when Mr. Jeno Vegh, Secretary General of the Federation of Hungarian Manufacturers, visited Dairy Industry and Food Technology Departments on the campus.

Mr. Vegh, who related Hungary's bitter story in the *American Milk Review* last month, is making a tour of the United States in order to learn of techniques and equipment that can be utilized by the dairy industry in his country.

The Hungarian visitor was impressed with teaching facilities and curriculum at the University of Massachusetts and expressed the hope that Hungarian students might be

H. G. Lindquist, Acting Head of the Department of Dairy Industry at the University of Massachusetts and Jeno Vegh of Hungary listen as Norman Myrick, Editor of the AMERICAN MILK REVIEW says something either funny or profound depending on which face you look at.

added to the long list of foreign students working in Food Technology and Dairy Industry at the University. Mr. Vegh who speaks a number of different languages, carried on an animated conversation with a student from France, switched to Turkish when presented to two students from Ankara and translated the whole into English for the benefit of your editor who had the good fortune to accompany him on his visit.

Mr. Vegh will visit dairy installations in the Chicago area prior to his departure for England and the Continent.

An article setting forth how the United States dairy business in all its major branches of production, processing, transportation and distribution in every step from the cow through to the consumer as seen through his discerning eyes will be presented in a forthcoming issue of the "*Review*". Mr. Vegh writes clearly and well and we are certain that our readers will be highly interested in his impressions. The time of his departure for Britain has not been announced.

The Food Technology Department at the University is under the Chairmanship of Dr. Carl R. Fellers, well known in food circles throughout the world. Mr. Vegh was extremely interested in the work that Dr. Fellers and his associates were doing in packaging, particularly in the field of glass containers.

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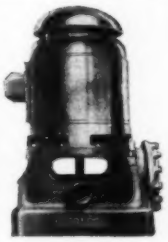

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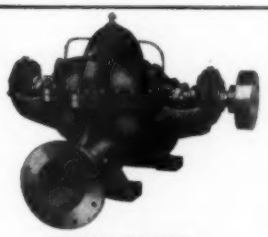

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Selby Calls For Reasonable Pricing of Seasonal Surplus

Head of New England's United Farmers Sees Flush Season Pricing Principles Neglected in Syracuse Talk

"MORE REALISTIC PRICING of the seasonal surplus of milk is needed under Federal milk orders" declared Howard W. Selby, speaking at the annual banquet of the New York Metropolitan Cooperative Milk Producer's Bargaining Agency at Syracuse, N. Y. on December 1st. This was the main point of his address which also called for Congress to further develop its thirty-five year policy of promoting the public interest through the encouragement of Farm cooperatives.

"There is reason to believe that the essential principles which should govern pricing of surplus milk have been neglected, and that the results of some of the provisions of milk orders are so rigid and so far out of line with costs and values – that the ability of cooperatives to efficiently continue their service role of cleaning up the markets' surplus is being jeopardized".

Selby, who is General Manager of United Farmers of New England, cited the effects of changes in Class II (surplus) price factors that have occured since 1940.

Sees Cooperative Growth

Referring to the future of co-operatives in this country Mr. Selby said that the present attacks on cooperative business were not causing concern among cooperative leaders. These leaders know that private profit corporations are trying to tear cooperatives down through fear of competition because they know that the coops have something really sound and fair which challenged other businesses to operate more in line with the public interest. He pointed out the fact that cooperatives do not have income or profit because they are mutual, non-profit types of business; any excess of revenue over operating expenses is owned by the individual members, not as a corporation.

The eight federal laws passed since 1913 to encourage cooperatives were outlined. "While one of the basic principles of the policy of Congress is up for review, the whole policy over the years should be brought into focus. Efficiency in marketing and the public interest are the two basic propositions that should be redefined in terms of specific positive action that can be taken by cooperatives.

The real fear of those who attack cooperatives, the speaker said, is the realization that cooperatives are progressive now because members are remembering the hard times that brought them together in the beginning. This may mean that they are facing a new day of further growth which can be greater than any of the fondest expectations of the past."

Can Clean Up Surplus

"The effect of changing the Class II (milk above fluid milk requirements) price factors since 1940, total a reduction in the operating revenue in relation to the net revenue available from products which can be made from Class II milk. We believe, he said, that the service to the market of cleaning up its surplus is still a logical role for cooperatives. We think the failure to recognize the greatly inflated costs of handling, processing, and manufacturing as well as the risks and uncertainties which make these operations hazardous at best, is responsible for some of the squeaking wheels which are now apparent in the operation of our Order."

Mr. Selby praised the work of the Boston Milkshed Price Committee in arriving at a formula which is regarded as a good definition of the reasonable price for producers in terms of the public interest. In this, he said that producer groups have demonstrated statesmanship in recognizing that consumers cannot pay prices that support a milk supply which is more than adequate. In return the producer groups have asked the public to pay a price which is fair and in line with the prices they pay for other goods.

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PACKAGING EXPOSITION SET

The American Management Association announced today that its 17th annual Packaging Exposition, will be held April 26-30, 1948, in the Public Auditorium at Cleveland, Ohio. Approximately 200 exhibitors will utilize 100,000 square feet to display developments in packaging, packing and shipping machinery, equipment, materials, design and services which are used in the manufacture and sale of virtually every product in the nation's commerce.

The 17th Exposition marks the first time in four years the event will be held in the mid-west and the first time in its history that it is scheduled for five days instead of four. Extension of the schedule was determined after last year's show in Philadelphia was crowded by a trade attendance of 16,000 and exhibitors requested the additional time.

The annual three-day AMA Conference on Packaging, Packing and Shipping will also be held in the Cleveland Auditorium April 27-29 concurrent with the Exposition. More than a thousand packaging executives, engineers and technical experts who are members of AMA's Packaging Division will discuss the management aspects of materials, methods, procedures and merchandising.

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REFRIGERATION DIRECTOR

Smyrna, Del–Alfred E. Bissell, of Wilmington, Del., a partner in the stock brokerage firm of Laird, Bissell & Meeds, has been elected a member of the board of directors of Wilson Refrigeration, Inc., a division of the Wilson Cabinet Co., it has been announced here by John E. Wilson, Jr., president of the company.

Mr. Bissell, a Yale graduate, has been associated with Laird, Bissell & Meeds since September 1926 and became a partner of the firm in 1930. He is a director of Coca-Cola Bottling Plants, Inc., and the Farmers Bank of Delaware. During the last war Mr. Bissell served as a member of the U. S. Army Air Forces.

The Wilson company manufactures home and farm freezers, milk coolers and commercial refrigeration products.

●

GRADE "A" PRODUCER HONORED

Walter P. Reynolds of Oxford, Pa,. age 88, oldest living member of the original group of pioneer Grade "A" milk farmers in Pennsylvania, was presented a citation recently by W. S. Anderson, Director of the Pennsylvania Bureau of Milk Sanitation. The ceremony took place before a large group of dairy farmers and other leaders in the dairy industry on the original Reynold's farm near Oxford.

The pioneer group of dairy farmers established Grade "A" Milk in Pennsylvania when they adopted the sanitary milk production methods developed by Dr. Charles E. North, New York Sanitation Specialist in 1914. One of the key points of Dr. North's system was a cash bonus payment to farmers for extra sanitary care in producing milk on their farms. At the same time the Grade "A" system was adopted, Abbotts Dairies established Pennsylvania's first country bacteriological laboratory for testing milk.

Speakers at the ceremony included Mr. C. R. Lindback, President of Abbotts Dairies, Dr. Charles E. North, Benjamin Welty, President of the Inter-State Milk Producers Cooperative, and Dr. Rufus Reeves, Director of the Philadelphia Dept. of Public Health.

HEADS OHIO DEPARTMENT

Kentucky Professor Named Chairman of Department of Dairy Husbandry at Ohio State University

Columbus, Ohio—Dr. Fordyce Ely, Professor of Dairy Husbandry at the University of Kentucky, has been elected chairman of the Department of Dairy Husbandry in the College of Agriculture at the Ohio State University, according to announcement by President Howard L. Bevis, following approval by the Board of Trustees, meeting Dec. 15. He succeeds Dr. W. E. Krauss, who on January 1, 1948, becomes associate director of the Ohio Agricultural Experiment Station at Wooster.

Dr. Ely will also be chief of the department of dairy husbandry at the Experiment Station when its administration is merged with that of the College of Agriculture next month. His appointment was approved by Dr. Krauss and also by Dean and Director-elect L. L. Rummell.

Native of Wisconsin

Born in Wisconsin, Dr. Ely, 49, was graduated as a dairy student at the University of Minnesota. After experience on dairy farms and as field man for the Twin Cities Milk Producers Association, he went to Iowa State College. There he taught short courses in agriculture and received his master's degree in 1922.

He taught at Iowa State College until 1928, when he became professor in charge of the Dairy Section at the University of Kentucky. On a leave of absence in 1936 he received his doctor's degree at the University of Minnesota, specializing in milk production.

Dr. Ely has received several professional degrees and honors. Last year he was president of the American Dairy Science Association. He took a 4-H Club judging team to Europe in 1927, and was an official delegate to the World's Dairy Congress in Berlin in 1937. He has spoken frequently before Ohio dairy farmer audiences.

E. F. WELLINGHOFF RETIRES

After fifty years of service in the dairy machine and supply business, E. Fred Wellinghoff General Sales Manager of Girton Manufacturing Company, Millville, Pennsylvania, will retire from active service to "a period of partial rest and relaxation".

Mr. Wellinghoff will continue to devote part of his time to representing Universal Glass Products Company, Parkersburg, West Virginia, as he has done for the past four years.

Mr. Wellinghoff's career in the dairy supply industry includes 30 years with Creamery Package Manufacturing Company as General Sales Manager from 1918 to 1927. From 1927 to 1943 he connected with the Thatcher Manufacing Company of Elmira, N. Y. as Vice-President in charge of sales.

Millville, will continue to be Mr. Wellinghoff's residence and he plans to keep up his contacts with the dairy industry and his many friends associated with it. "After so many years of active work" Mr. Wellinghoff says, "One can't just give up completely".

●

FOUR HERDS COMPLETE TESTS

Brattleboro, Vt.—Four Holstein herds in New York have recently completed a year of production testing in the official Herd Improvement Registry program of The Holstein-Friesian Association of America.

These are: Frank G. Elliott, New Paltz—9 cows averaged 461 pounds of butterfat and 12,670 pounds of milk in 292 days on 2 milkings daily; Wayne County Home, Lyons—9 cows averaged 454 pounds of butterfat and 12,149 pounds of milk in 351 days on 2 milkings daily; Lewis Gay, Warsaw—6 cows averaged 414 pounds of butterfat and 11,398 pounds of milk in 320 days on 2 milkings daily; and Homestead Farms, Inc., Stormville—22 cows averaged 397 pounds of butterfat and 11,517 pounds of milk in 307 days on 2 milkings daily.

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CLEANING *HTST* PASTEURIZERS

By **W. H. HASKELL**

Klenzade Products, Inc., Beloit, Wis.

Progress inevitably moves from the simple to the complex. An advance in one direction produces new problems in another. High Temperature Short Time pasteurization is an example. Dr. W. H. Haskell, distinguished member of the Klenzade Products staff, points out in this article that cleaning ordinary pasteurizing equipment is one thing and cleaning HTST equipment is quite another.

THE NECESSITY for adequate cleaning of all pasteurization equipment has its beginning on the milk producing farm. The cleaning necessity for plant equipment is emphasized in HTST pasteurization because of the changes in the character of the "soil" due to the higher temperature employed, and the fact that certain micro-organisms either survive or definitely increase in number at the higher temperature employed. Inasmuch as many of the heat-loving and heat-resisting bacteria gain access to the milk supply because of inadequate preparation of dairy farm utensils—milking machines being a major consideration—it is not unreasonable to assume that dairy farm sanitation is important.

In any cleaning procedure the following factors should be considered,—(1) The character and composition of the material to be effaced,—(2) The composition of the water used for cleaning, and,—(3) The composition of the Cleaning Compounds employed.

It is advisable to discuss these factors briefly in the order named.

(1) *Composition of Material to be Effaced.*

Milk is a complex substance containing, essentially, fat, proteins, and varying amounts of mineral substances. The constituents of milk react specifically to variations in temperature. This specific reaction to temperature must be considered because high temperatures applied to milk invariably provide a "burn-on" of milk solids, principally calcium caseinate, with entrapped milk fat. This type of "soil" is different in character from the "soil" encountered on producing farms or in milk plants employing low temperature pasteurization.

(2) *Composition of Water Used for Cleaning.*

Water, as we find it, varies widely in its chemical composition. The "sealing" properties of water are increased as the water hardness increases. Lake water, under correct use conditions, varies greatly in chemical composition from water derived from underground sources. Applying heat to water tends to produce precipitates—in fact, water hardness may be removed by boiling through the formation of calcium carbonate, an insoluble substance.

From this brief discussion, it is obvious that water itself may vary the methods of cleaning treatment applied to specific milk equipment.

(3) *The Composition of Cleaning Compounds Employed.*

The chemical composition of cleaning compounds used in removing "soil" from HTST equipment is deserving of major consideration. It is not unusual to encounter cleaning compounds so constituted that they create additional cleaning problems. Obviously, the use of such compounds should be approached with reluctance.

Apply Principles of Chemistry

It is well established that no one type of cleaning compound, either alkaline or acid, will permit a satisfactory cleaning job over a period of time. Proteins and mineral deposits are the most difficult to remove. Milk solids at high temperature are not soluble in water. These two facts alone clearly indicate the necessity for the application of the principles of chemistry for efficient cleaning.

Alkaline cleaners will remove fats, proteins, and heavy character "soil".

Acid cleaners will remove mineral deposits that precipitate and bind protein to the equipment.

In average dairy farm cleaning procedures an alternate cleaning method is recommended, involving the use of a balanced alkaline cleaning compound for three days, followed by a balanced acid cleaning compound for one day. This alternate cleaning procedure is altered in the cleaning of HTST pasteurizers, due to the characteristics of the soil encountered. The alternate cleaning method recommended for HTST pasteurizers includes the recirculation of a balanced acid cleaner, thorough flushing, followed by the recirculation of a balanced alkaline cleaner, and again thorough flushing.

To be more specific, the acid and alkaline compounds are used in the same cleaning operation, one immediately following the flushing of the other. The acid compound acts more as a solvent for mineral matter than as an actual cleaner, although definite cleaning properties are possessed by the acid product. It should also be emphasized that thorough flushing with hot water should follow both acid and alkaline recirculation.

Inasmuch as it is not chemically possible to mix acids and alkalines in the same solution and maintain a definite desired balance, either acid or alkaline, the need for employing alkaline and acid balanced cleaning solutions in separate operations is obvious.

pH Value Is Important

The pH value is of extreme importance in the balancing and control of various cleaning compounds designed for specific type work. The neutral point of 7 provides an excellent point at, or near which it is possible to balance cleaning compounds for the lighter type cleaning work. In the case of HTST pasteurizers with the problem of "cooked-on" deposits to consider, it is essential that cleaning materials used for balanced cleaning compounds provide a pH approaching 12.4 on the alkaline side and a pH of 4.5 on the acid side. These pH values obviously are those recommended for use dilutions.

The consideration of the pH value as a determining factor in the construction of balanced cleaning compounds clearly indicates the possibility of blending cleaning solutions designed for specific cleaning jobs of any character, under reasonably accurate laboratory control.

It should not be forgotten that consideration of other factors in cleaning is of prime importance. Correct water soft-

ening, emulsification, wetting ability, lack of corrosiveness, free rinsing, etc., are all part of the problem.

Chemical Recirculation a Time Saver

The cleaning of HTST pasteurizers is frequently a time consuming task. In an effort to shorten the time and labor factors involved in this daily chore, there has been a definite trend toward the use of a chemical recirculation method of cleaning in place of the hand scrub method. Chemical recirculation cleaning does offer some advantages over hand cleaning. In the chemical recirculation method, the plate gaskets are in place and not subject to "bumping" and displacement. The chemical recirculation method also offers the application of increased pressures during recirculation. Increased pressures are desirable because of better penetration of the cleaning solution. Penetration of properly balanced cleaning solutions into the rubber gaskets is desirable because it decreases the possibility of milk fat remaining in the rubber cells. Fat left in rubber definitely shortens the period of usability of the gaskets and tends to create leaks due to hardened rubber. If cleaning is properly done, there should be no tendency of gaskets to become unseated.

Increased pressures used during the recirculation of cleaning compounds has definite value in providing increased flushing action for cleaning.

It should also be remembered that present-day chemically balanced cleaning compounds provide much greater cleaning efficiency than was formerly the case.

Team Work Necessary

It is not considered good practice for those engaged in providing chemical cleaning compounds to become too intimately involved in the engineering features inherent in HTST pasteurizers. Following the same line of reasoning, there appears to be no valid reason for those engaged in engineering to become too involved in the chemical demands of cleaning. Obviously, there are many reasons why both participants should consider the problems of the other and cooperate for the benefit of the equipment user.

A few major factors should be considered in the recircu- Pasteurizer should never be permitted to run dry

1. The cleaning compound used should be designed specifically for the cleaning problem.
2. The cleaning solution should be recirculated at a greater pressure than the usual operating pressure.
3. There should be a plentiful, uninterrupted supply of *hot* water.
4. Recirculation, both for cleaning and flushing, should be of sufficient duration to secure desired results.
5. Recirculation of cleaning compounds should be at a temperature at least 10° F. above pasteurization temperature.
6. Flow diversion valve should be removed from unit before recirculation is begun and valve dismantled and hand cleaned.
7. Pasteurizer should never be permitted to run dry during recirculation, either cleaning or flushing.
8. After completion of recirculation cleaning, pasteurizer should be flushed with cold water, dismantled, and *inspected.*
9. The plates of the HTST unit should be cool to the hand before dismantling begins.

It is imperative to remember that thorough cleaning is essential, no matter what method is employed.

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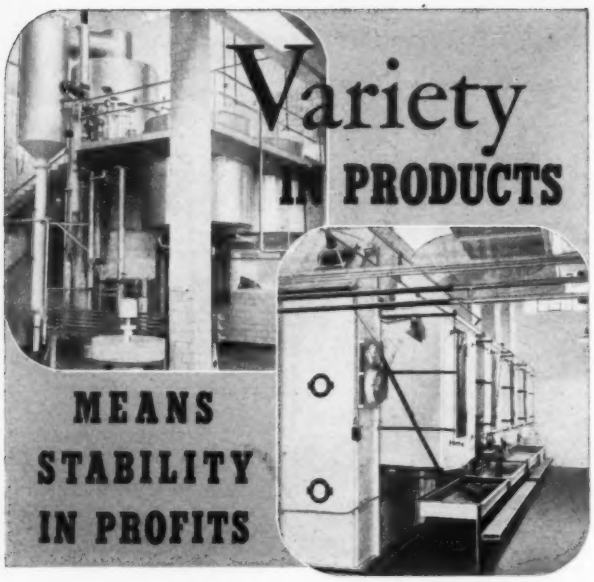

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Help Fight Infantile Paralysis—Give to the March of Dimes

RESEARCH REPORT

Proof that lactose, the natural sugar contained in milk, can be fully and effectively utilized to promote animal growth when it is fed at practical levels, has been found by dairy scientists.

In the past, lactose has been recognized as an important aid to intestinal health. But scientists have sometimes questioned whether or not all its food value could be used by animals in promotion of growth and body development.

The answer to this question was found in a series of laboratory experiments. One lot of animals was fed on diets containing no lactose, and others on diets containing varying percentages of lactose. Results demonstrated that animals can make full use of the food value provided in lactose when it is fed at practical levels in the ration.

There is about 4.8 per cent lactose in whole milk, but it is contained in higher concentrations in dried skim milk, dried buttermilk and dried cheese whey, the milk by-products normally used in animal and poultry feeding rations.

These new scientific findings, which are reported in the December issue of the Journal of Dairy Science by Dr. L. K. Riggs and Annabel Beaty of the Kraft Foods Company research department, will be highly valuable in working out feeding formulas containing milk by-products. This work indicates that it may be practical to add higher percentages of lactose in feeding rations than has been common practice.

In the experiments, it was found that when diets contain an amount of lactose as high as 30 per cent it is fully utilized as a food. Beginning at 20 per cent lactose in the diet, there is a laxative action which becomes more pronounced as the percentage is increased. But even at the 30 per cent lactose level this laxative action had no adverse influence on growth or food utilization.

It was also found that animals became adjusted to higher percentages of lactose. As they continued on the higher lactose diets the laxative influence gradually became less pronounced.

Experiments with dried whole milk, which contains as much as 37.5 per cent lactose, indicated that the ability to utilize lactose as a food also increases as the fat in the diet is increased. The dried whole milk diet contained about 27.5 per cent fat, compared to only 5 per cent fat in the low fat diets prepared with lactose.

Since milk products containing lactose are not generally mixed in feeding rations at levels which would give as much as 20 per cent lactose, and since these rations usually contain about 5 per cent fat, these experiments indicate that the lactose in such rations is fully utilized as a food in promoting growth and energy. The beneficial influence of lactose on the intestinal tract is a dividend over and above the feeding value it provides.

Sugar Study Published

"The Taste Sense and the Relative Sweetness of Sugars and Other Sweet Substances" has been published this week by Sugar Research Foundation as the ninth number of the Scientific Report Series. The study was prepared by the late Dr. A. T. Cameron, Professor of Biochemistry, Faculty of Medicine, University of Manitoba, and Staff Biochemist of the Winnipeg General Hospital.

The report stresses the importance of taste to all producers and processors of foods and discusses the difficulties in measuring sweetness ratios. The present monograph, composed by an investigator who has made broad studies in the field, reviews the existing literature and points the way to further productive research. Its consists of two divisions: a physiological discussion, and a practical applications section.

Copies may be obtained on request to the Foundation, 52 Wall Street, New York 5, N. Y.

Wants Foreign Dairy Students

Vice-President of International Dairy Society Urges World Cooperation as Essential to Peace

CANADIANS were recently urged by W. Frank Jones, vice-president of the Dairy Industries Society, International (DISI) to welcome foreign students to Dominion agricultural colleges and plants in order to advance in other nations a knowledge of modern dairy methods and processes. Mr. Jones' recommendations were featured in a speech, prepared by him for the recent annual meeting of the Ontario Milk Distributors' Association held in Niagara Falls, Ontario, and delivered there by W. K. St. John, also a member of DISI and executive secretary of the National Dairy Council of Canada.

"We, as representatives of the dairy industries, have much to contribute to the world . . . Human well-being throughout the world is a necessity if we are to have world peace. A sturdy, active dairy industry in every part of the world will contribute much toward the human well-being," Mr. Jones said:

Calling attention to a world survey on dairy conditions presented at DISI's first annual meeting at Miami Beach, Fla., Mr. Jones stated:

"This survey . . . showed that throughout the world the dairy industries had suffered badly during the war. Equipment for processing was destroyed; countless herds were wiped out or reduced or their production lowered; the carefully integrated process of keeping our highly technical industry going had been disrupted or had had to be stopped in the day-to-day struggle to see that there was food, any kind of food, to stave off starvation, or to save populations from enemy destruction . . . ."

DISI is aware, he declared, that world-wide compulsory pasteurization cannot be accomplished overnight. "For many countries, true," he remarked, "there has to be milk first, and then pasteurized milk and the Society recognizes this . . . ." Nevertheless, declaring that universal compulsory pasteurization when conditions permit, is one of the ultimate goals of the Society, he quoted a resolution to that effect adopted at Miami.

The speaker indicated that DISI could be looked to for latest information on how to increase production of dependable milk.

"It tells a farmer in the backlands of Brazil how to grow kudzu (that coarse, lush legume from Japan which has proved so well adapted to tropical pastures)", he said; "how to construct silos and to guard silage from climatic spoilage; how to cross native cattle with the Brahma strain which thrives in hot, steamy weather; how to fight hoof-and-mouth disease; how to develop a cattle strain resistant to insect bites.

"It passes on to other regions of the world the experience here, in the Scandinavian countries, and 'down-under', in reducing bacteria count at the farm itself through systematic cleanliness in cooling down milk, in keeping it cool on its way to the processing plant . . . and in the techniques of our industry, commonplace here, but still revolutionary in other areas as extensive as our own."

Mr. Jones is vice-president of the Borden Co., Ltd., Toronto, Canada, and former president of the National Dairy Council of Canada. He told the milk distributors of a recent DISI membership drive during which Cuba and Canada rounded up the greatest number of new members. Canada ranks second only to the United States in number of Society members.

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Foot and Mouth Disease Control Program Takes New Direction

Difficulties in Complete Eradication Cause Authorities to Adopt Modified Measures—Vaccination and Quarantine Chief Weapons

ARMED RESISTANCE BY Mexican farmers against the slaughter of their herds in the campaign to rid Mexico of the dreaded foot and mouth disease have resulted in sharp curtailment of eradication activities. Brought to a head when seven soldiers and a veterinarian were ambushed and slain by Mexican cattle owners the drastic measures that sought to rid the country of the cattle scourge were modified.

The original campaign proposed to slaughter more than two million Mexican cattle within the infected area. An elaborate organization provided with rifles, steam shovels, bulldozers, cleaning and disinfecting equipment was executing the plan that would cost more than 400 million dollars. Mexicans were reimbursed for their losses according to pre-arranged schedule of payments and received money from a traveling paymaster who accompanied the extermination crews.

Language Problem Difficult

Chief problem was related to the difficulty presented by linguistic variations in Mexico and by the necessity of slaughtering draft cattle as well as beef and dairy animals. Poor roads and provincial isolation made the task of explaining the problem extremely hard. Loss of draft cattle threatened Mexican agriculture with a serious dislocation. Although mules and tractors were introduced as far as possible the replacements were apparently not sufficient to meet the demands of the situation.

Announcement of the change in policy was made last month by the joint Mexican-American commission in charge of operations. Although contrary to the lessons of past epidemics the action was presumably the alternative to serious civilian rebellion. Previous epidemics in the United States have been brought under control by complete extermination of all infected and possibly infected animals. The result was the complete eradication of the disease. In contrast are the sporadic outbreaks of the infection in European countries where less heroic measures were applied.

The new plan of attack, which has met with some criticism from American cattlemen, was agreed upon by the Mexican-United States commission in a two day meeting with Under-Secretary N. E. Dodd of the U. S. Department of Agriculture and Oscar Flores of the Mexican Ministry of Agriculture at a meeting in Washington on December 9.

Nearest Point to United States

The northern defense line begins at Tampico on the Gulf Coast and extends westward to Puerto Vallarta on the Pacific Coast. It ranges from 250 to 600 miles south of the international border. North of these defense lines there is no known infection. Mexican soldiers and civilians will patrol this line on the ground and from the air to see that no animal crosses it. The southern defense line runs from the Gulf Coast to the Pacific Coast along the southern boundaries of the States of Vera Cruz and Oaxaca.

Plans were discussed for a wire fence to be erected along these lines. Eradication forces will then work from these lines toward the infected area and thus establish buffer zones.

The Commission met in Washington to discuss modifications of the eradication campaign now in progress. The Commission stressed the fact that the changes in the methods of operation are all aimed at giving the utmost in protection against the spread of the disease to the clean areas of Mexico and the neighboring countries to the north and to the south.

The two-day discussion centered around the following points:

1. Methods for effecting the maximum effort by both countries to hold and strengthen the existing quarantine lines to keep the disease from spreading.

2. The regrouping and concentration of field forces along the quarantine lines.

3. Methods by which the active cooperation and participation of the Mexican National Army could be most effectively utilized.

4. Details connected with the employment of technically qualified people including economists and others to conduct research and study of effects of the disease upon the economies of both countries.

5. Procedures and details involved in the scientific study of the disease, and the testing of available vaccines.

●

DUBUQUE ORDER TO STAND

The U. S. Department of Agriculture will issue no amendment to the Federal milk marketing agreement and order regulating milk handling in the Dubuque, Iowa, milk marketing area. The proposed amendment was requested by milk producers supplying the Dubuque market, and proposals were submitted at a public hearing held last August. Evidence presented at the hearing failed to justify the need for change in the present order.

The chief proposal submitted at the hearing was for an increase of 50 cents per hundredweight in the producer price of milk sold to handlers for Class I (fluid) and Class II (fluid cream) uses.

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TO STUDY FEDERAL MARKET

National Cooperative Milk Producers Federation Discusses Agricultural Marketing Agreements Act

Washington, D. C.—A special committee of the National Cooperative Milk Producers Federation met in late November with Secretary of Agriculture Clinton P. Anderson to discuss a study which the group will make of the Agricultural Marketing Agreements Act and the mechanics of its administration. About 30 primary markets and many subordinate markets now have federal milk marketing orders under the provisions of the Act.

"The committee intends to determine whether amendments to the present law are desirable, and whether short-cuts in its administration can speed up amendments to local orders," explained committee chairman W. P. Davis, Boston, general manager of the New England Milk Producers Association. "After the committee has made its study and drafted its suggested recommendations, they will be presented to a special national meeting of representatives from all federal milk markets. Following action by the national meeting they will be submitted to Secretary Anderson.

"There is a general feeling throughout the nation that the months-long procedure which is now required to secure price adjustments and other amendments to federal orders could be cut down to a matter of weeks. The committee intends to investigate this and other matters in respect to the law and its administration."

Davis said that all but about four of the federal order markets already have representation in the National Cooperative Milk Producers Federation.

Other members of the committee are Leon A. Chapin, treasurer; Dairymen's League Cooperative Association, Inc., New York; R. S. Waltz, general manager, United Dairymen's Association, Seattle, Washington; B. B. Derrick, manager, Maryland and Virginia Milk Producers Association, Washington, D. C. and Robert Schiering, president, Cooperative Pure Milk Association, Cincinnati, Ohio.

●

RICHARD MARKLEY, JR. NAMED

Madison, Wisconsin—Appointment of Richard Markley, Jr., of Liberty, N. Y., as consulting engineer and factory representative for the Dairy Equipment Company, of Madison, Wisconsin, has been announced here by G. F. Albrecht, president of the company. The Dairy Equipment Company is the Wisconsin, Minnesota and Iowa distributor for Wilson freezers, milk coolers and other refrigeration products manufactured by Wilson Refrigeration, Inc. of Smyrna, Delaware.

Mr. Markley, formerly chief engineer for Wilson Refrigeration Inc. designed the Wilson Zero-Flow Milk Cooler. He is well known in the refrigeration industry, particularly for his work on dairy equipment.

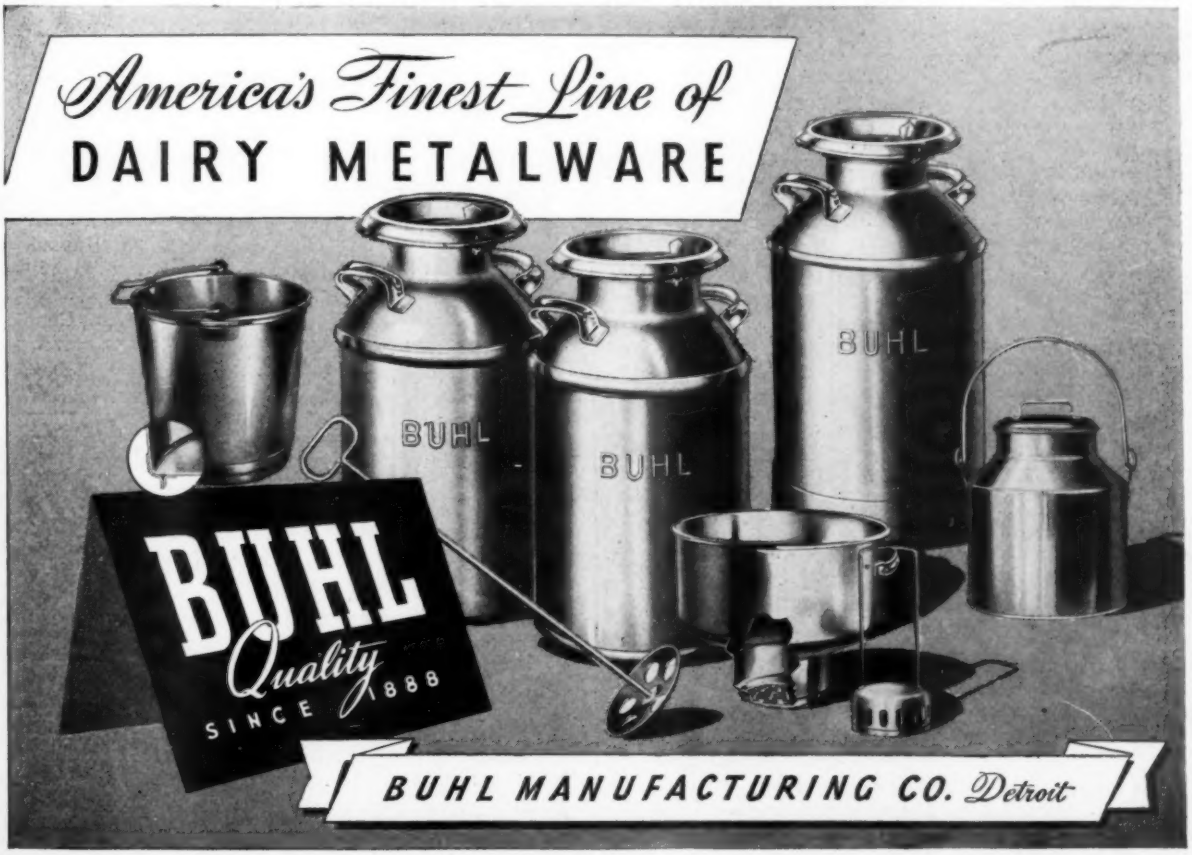
●

PURCHASE NEW BUILDING

Philadelphia—Purchase of the two-story and basement building at 34 E. Logan Street, one block from its main plant, by Leeds & Northrup Company, manufacturers of electrical measuring instruments, automatic controls and heat-treating furnaces, has been announced by C. S. Redding, president of the 48-year-old firm.

The building was owned and occupied by the Automatic Temperature Control Company, Inc., which has consolidated, at a new location, operations previously carried on at this and two other locations.

The newly acquired property will add approximately 11,000 sq. ft. of floor space to the 288,886 sq. ft. now in use at the Leeds & Northrup plant on Stenton Avenue.



. . . Just Some Odds and Ends . . .

DON'T TRIFLE WITH IT

FINES OF $500 on each of four counts in a charge of having shipped interstate milk containing filth and sediment were levied today against the Midwest Dairy Products Corporation by Judge Albert A. Ridge in the federal district court.

The company, which operates plants throughout the Middle West, was accused of making four shipments of milk which violated food and drug regulations from a West Plains, Mo., plant to Memphis, Tenn. The shipments were said to have been made September 27, 1946, and two, April 3, 1947.

RECORD-BREAKING BOSSY

Ross De Kol Crusader Fobes 2024672, a Holstein cow on the Pabst farms at Oconomowoc, Wisconsin, holds one of the highest milk production records ever set in that state. Milked three times a day, she made 22,870 pounds of milk and 918.5 pounds of fat in 365 days, which is four times the milk or fat produced by the average cow.

This top-notch bovine also has two other annual records of over 700 pounds of fat, one of 784.30 pounds and the other 776.10.

Her daughter, Pabst Burke Ross Fobie is "no slouch" either in the matter of high production. At two and a half years she was classified as Very Good.

SLIGHTLY MIXED DEPARTMENT

LOOKING OVER THE accumulated bits of pack ration miscellany that have gathered on our desk we note a rather pertinent story from Kansas City. To be sure the story is deader than the well known door-nail but its implications are timeless.

"The intricacies of the milk pricing formula in the Kansas City market proved too much even for the experts" the Kansas City Star in reporting a USDA hearing, says, "I am not sure what you mean by that" was a frequent reply given by witnesses at the hearing while James A. Moore, attorney for the producers summed everything up in neat nutshell by observing "the issues involved here are very complex".

One of the verbal sidewinders tossed at witnesses was "Would you say that, under the present order, inequities result for the handler who purchases hightest milk in his Class 3 sales, figuring his annual costs, where he buys other source milk to use his surplus poundage for standardization?"

Presiding officer Will Rogers for the Department of Agriculture halted the questioning with a penetrating observation. "We seem to be getting a little twisted," he said.

Like rope maybe.

NEED A GOOD JOB?

REPORTS from the Windy City tell of a $29,000 wage asked by the Chicago Milk Wagon Drivers' Union for one of their members. The story, we picked it up from the *Farm Journal*, says that the demand was made to break up store sales of milk in favor of home delivery. Seems that Chicago has a substantial store trade which has reduced the number of home delivery drivers from 8,000 to 5,000 since 1940.

Well there are many ways to skin a cat but we wonder if the pelt from any feline is worth that price. However, if it's a deal, we'd like one too.

FEEDS UP TOO

ACCORDING to Dr. L. C. Cunningham, dairy farmers get only half as much for their labor as factory workers. Dr. Cunningham calculates that for the year ending in 1946 the farm price for milk in New York State was $4.63 per hundred pounds. It took $2.29 worth of feed and $.79 for other expenses to produce the milk. The farmer has $1.62 left over to pay him for the 2½ hours of work required to make the 100 pounds of milk. This figures out to be $.65 per hour.

The moral, says Dr. Cunningham, is to save labor wherever possible on the farm.

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A COLUMNIST LOOKS AT US

CHARLES M. SIEVERT found the dairy industry worthy of discussion in his daily newspaper column. *Lines and Linage* is the title of Mr. Sievert's column which appears regularly in the *New York World-Telegram*. This particular item led the parade on October 16.

"Ad-wise Intelligence: While the nation is creasing its brows about days without meat and fowl, few realize the importance of milk in our daily diet. . . . The Milk Industry Foundation points out that "milk distribution is now on a scale undreamed of a few years ago." . . . A century ago, farmers were looking toward the day when the country would have 5,000,000 cows; today it has 26,750,000, and an annual supply of 58 billion quarts of milk. . . . Oddly, while the foundation reveals that cash farm income from milk was exceeded for the first time by cattle and calves, it is noticed that last year the nation had 900,000 more cows for milk purposes. . . . Adwise, the milk industry has done a good job in selling its product to the public. It has stressed the value of milk in our diet and has plugged the idea with consistentcy although seldom on a pretentious scale. . . . At the same time, it gained momentum as modern dairying methods helped swell the supply and force the prewar price downward. Per capita consumption rose from 163 quarts in 1924 to a peak of 203 in '45 before dropping back to 200 last year.

A break-down of the milk distributor's dollar shows that less than a penny is spent for advertising purposes; yet the volume that now goes into the ad bucket to promote other products, such as ice cream, cheese, butter, evaporated and condensed milk, derived from milk is a sizable slice of the nation's annual total. In addition, milk goes into varied industrial products such as plastics, textiles, paint, insecticides, penicillin, and plaster dyes. No fear is expressed about its supply despite that new uses for it are being uncovered every year. There's enough milk produced annually virtually to fill the Mississippi River and production is continuing far above prewar averages."

Well that makes us feel as though we belong to a pretty fair league and convinces us that Mr. Seivert is a very fine fellow indeed.

Stoelting

PLANT-PROVED EQUIPMENT

FOR GREATER ECONOMY and EFFICIENCY

STOELTING "Havorite" PASTEURIZER

Simple . . . Positive . . . Dependable

Dairy plant operators prefer Stoelting plant-proved equipment because of its many outstanding points of superiority and its ability to do a better job at a lower total cost. Typical of the features found in the new Stoelting Pasteurizer is its rapid transfer of heat. Milk is brought to pasteurizing temperature by steam heating — that means even heating without flavor destroying scorching or cold spots. Special inclined propeller type agitator, driven by an entirely enclosed self lubricated motor, provides gentle yet positive action, regardless of the amount of milk in machine. Inner jacket is of stainless steel. Outer jacket on standard model is finished with white enamel. Deluxe model has No. 4 polished stainless steel outer shell. Write for additional information.

FOR PASTEURIZING and COOLING

STOELTING BROS. CO., KIEL, WISCONSIN

Food Industries to Participate In Huge Chicago Production Show

Technical and Engineering Groups Will Tell Results of War and Peacetime Research at Technical Conference in March '48

"A PROGRESS REPORT TO THE NATION" will be the theme of the Chicago Technical Conference, slated for March 22-24, 1948, at the Stevens Hotel. A registration of 10,000 men is anticipated. Unique in the history of such conferences will be the emphasis on non-technical, everyday language so that the layman may understand the discoveries, new processes, new techniques, and new materials that are molding the future of mankind.

Held in conjunction with the annual Chicago Production Show, the Conference will be sponsored by the 51 scientific, engineering, and technological societies affiliated with the Chicago Technical Societies Council. President of the Council is Dr. Gustav Egloff, internationally renowned chemist, and Director of Research of the Universal Oil Products Company. Saluting Chicago and Northern Illinois as the national center of technological "know-how", the participating societies, with a combined membership of more than 20,000 technical men, will show and tell in panel sessions, demonstration meetings, and exhibits, the results of wartime and peacetime research carried on in industry, universities, and laboratories.

Will Present Many Subjects

Open to the general public, the Conference sessions will cover modern advances in radio, television, refrigeration, heating and ventilating, motion pictures food and dairy products, rubber, paper, chemistry, plastics, management engineering, metals, tools, illumination, agriculture, welding, pharmaceuticals, paints and varnishes, and many other subjects.

A highlight of the Conference will be the Julius Steiglitz Memorial Lecture, sponsored jointly by the Chicago Section, American Chemical Society, and the University of Chicago. The lecture, scheduled for Monday evening, March 22nd, will be delivered by one of the country's foremost scientists. The invitation to prepare this address is regarded as one of the highest honors in American science and is issued each year by the sponsoring bodies.

Numerous Groups Represented

Prominent among the participating societies are the following: the American Chemical Society, the American Institute of Mining & Metallurgical Engineers, the Institute of Radio Engineers, the Society of Plastics Engineers, the Society of Motion Picture Engineers, the Institute of Food Technologist, the American Society of Mechanical Engineers, the American Society of Civil Engineers, the American Society for Metals, the American Society of Heating and Ventilating Engineers, the American Society of Tool Engineers, the American Institute of Architects, the American Society of Lubrication Engineers, the American Pharmaceutical Association, the American Institute of Electrical Engineers, the American Welding Society, and the Industrial Management Society.

According to Royal L. Stapleton, Vice-President of the Council in Charge of the Conference, plans for the event include radio and television coverage in the Greater Chicago Metropolitan Area.

Exhibitors at the Chicago Production Show will have the opportunity to demonstrate their products and services to crowds equalling last year's record attendance of 27,000 production executives, supervisory personnel, and technicians. Suppliers to industry desiring information about booth space are invited to write or wire Paul A. Jenkins, Executive Secretary, Chicago Technical Societies Council, 53 W. Jackson Blvd., Chicago 4, Ill.

●

COLOR FILM ON HAY MAKING

Schenectady, N. Y.—"Green Hay," a new full-color sound movie, showing the methods of barn hay curing, and depicting an actual installation of a hay drier from start to finish, will soon become part of the General Electric Company's "More Power to the American Farmer" program. The educational film will be shown to farm audiences throughout the country by G-E farm and home dealers.

The film shows the experiences of Harold Stewart, a farmer near Ballston Lake, N. Y. In the film, he loses a good hay crop as a result of rain. His county agent then tells him about curing hay in the barn, and takes him to a neighbor's farm to show him a typical installation. Thus convinced of the advantages of barn hay curing, he decides to put a system into his own barn.

The steps Stewart takes in buying and installing the equipment are shown in detail. The advantages of the system, once it is installed and in operation, are explained by showing exhibits of various types of hay that have been cured in the barn and comparing them, both as to appearance and nutritional content, with field-cured hay. That hay can be put into the barn the same day it is cut is also demonstrated.

Much of "Green Hay" was filmed on Mr. Stewart's farm. The statistics used by the film's narrator are based on tests conducted by many agricultural colleges.

PROTECT YOUR *frozen* CREAM

N.D.G.A. ANTIOXIDANT insures positive protection from oxidative flavor changes in frozen cream — Prepare for the flush season now — Write for full information.

NORDIGARD CORPORATION
2536 W. Monroe St. Chicago 12, Ill.

WHY?
DO YOU PAY MORE??
Corrosive Sublimate Tablets
Mercuric Chloride Tablets
COST MUCH LESS!
500 Per Bottle - CONVENIENT
DISPENSED SAFELY
500 or 1,000,000
WRITE TODAY — IT WILL PAY DIVIDENDS
UNĒK PRODUCTS COMPANY
Dept. T
OCONOMOWOC WISCONSIN

WHAT HAPPENS TO VITAMIN A

(Continued from Page 52)

ment during processing. Since the vitamin A potency of cheese corresponds to that of the milk from which it is made, cheese produced in the summer has a greater vitamin A value than that manufactured in the winter (10).

Apparently the vitamin A content of cheese does not vary significantly during ripening and storage. No losses were noted when Cheddar cheese was stored nearly a year. The carotene content showed a slight increase while the vitamin A content remained constant (9). In certain mold cheeses, it appears possible that some synthesis of vitamin A takes place since food tables show vitamin A values higher than can be accounted for by the vitamin A found in the milk from which the cheeses originate. However, one piece of experimental work on blue cheese indicates no change in its vitamin A value during aging (11).

Carotene in Ice Cream

In a study on ice cream, the carotene of ice cream manufactured under commercial ice cream plant conditions was decreased 15% by seven months storage at 10° F. (12).

Summary

1. The vitamin A value of milk and butter varies with the amount of carotene in the ration of the cow.

2. The vitamin A in milk is relatively stable to ordinary processing and handling procedures. Commercial storage of butter under existing conditions results in very little if any loss of its vitamin A potency.

3. The vitamin A value of cheese corresponds to that of the milk from which it is made, with the cheese retaining a very high proportion of the vitamins present in the milk. The vitamin A content of cheese does not appear to vary significantly during ripening and storage.

4. The carotene in ice cream may decrease slightly when the ice cream is stored for several months.

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DAIRY PROFESSOR NAMED

Urbana, Ill.—Doctor Paul H. Tracy, professor of dairy manufactures at the University of Illinois and president of the American Dairy Science association, has been appointed an advisory member to the U. S. War Department's committee on food research.

His appointment came from George Gelman, technical director of the Quartermaster Food and Container Institute, who indicated that the committee would review proposed research projects and programs and determine those which are most important and should have first attention.

Best Fed Nation...?

Food Authority Says Nation Ranks Thirteenth in Milk Consumption—New Zealand Heads List

Far from being the best fed nation in the world—as many Americans smugly believe—the United States ranks far down the line in the nutritional value of food consumption, an article in a recent issue of *The American Magazine* discloses.

"New Zealand probably is the best fed nation on earth," states Fred Bailey, executive director of National Agricultural Research, Inc., who declares that, here at home, "we feed our hogs better than our children."

Here, as given by this food authority, are some blunt facts about the situation in this great food-producing nation:

Only one-third of the American population gets all the necessary food elements in its diet.

At least another third of our population actually suffers from hunger, not from lack of volume, but from lack of nutrition.

In per capita consumption of milk and milk products, the U. S. ranks 13th.

In protein consumption, animal and vegetable, America ranks 12th.

Here are the nations that lead us:

Consumption of milk and milk products—Sweden, Switzerland, Finland, Iceland, Denmark, Austria, New Zealand, Eire, Norway, Canada, Netherlands, the Argentine.

Consumption of meats—Australia, Uruguay, the Argentine, New Zealand, Paraguay.

While "we have always considered Soviet Russia and Manchuria regions of comparative destitution" Bailey points out they enjoy equal ranking with the U. S. in animal and vegetable protein consumption.

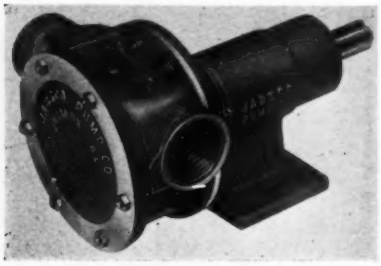
Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL, SILVER and BRONZE.
KURLY KATE CORPORATION
2215 S. MICHIGAN AVE. CHICAGO 16, ILL.
ORDER FROM YOUR JOBBER OR WRITE DIRECT
Kurly Kate
stainless metal sponge

USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

Pump for Food Industry

A STAINLESS STEEL PUMP intended for use in the chemical, bottling, food and dairy industries has recently been announced by the Jabsco Pump Company of Burbank, California.

The pump has but one moving part, an impeller made of neoprene compound.



The resilience of the impeller results in automatic compensation for wear in the pump body and facilitates passage of suspended solids without jamming.

The pump can be operated in either direction and mounted in any position without any change in efficiency. Positive action action mechanical seal is provided. Bearings are factory lubricated and sealed. A wide range of operating speeds, from 100 to 1750 RPM offers a maximum of flexibility in driving arrangements.

The pump is available at the present time with provisions for 1½ inch pipe connections only.

New Laboratory Pulverizer

A NEW SPECIALLY DESIGNED popular-priced mill for laboratory use in the grinding of analytical samples, has just been announced by Pulverizing Machinery Company, 33 Chatham Road, Summit, N. J., manufacturers of pulverizers and dust collector systems.

Known as the Mikro-Samplmill, the new unit was developed in collaboration with representatives of the Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. Department of Agriculture.

The Mikro-Samplmill is furnished in two models, one for bench use and a floor model.

Designed primarily for pulverizing analytical samples of fertilizing materials and mixtures up to 7% of free moisture, and mixed feeds and grains, the pulverizer performs with equal efficiency, however, on roots, limestone, coal and other minerals, as well as on an inclusive range of chemicals, pigments, food products, etc., such as are processed with full-size pulverizer production units. Run at top speed, and by inserting a finer screen, the Mikro-Samplmill will make just as fine a product as a larger Mikro-Pulverizer unit.

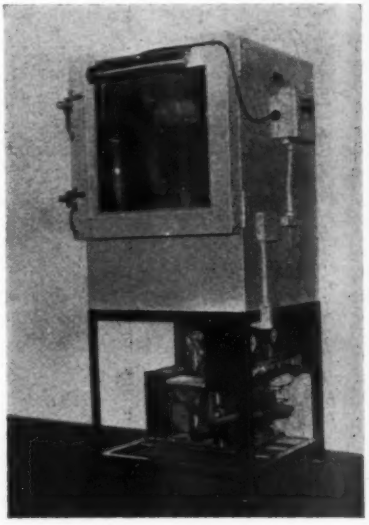
Complete protection against contamination is accomplished by liberal use of stainless steel and by smooth interior surfaces which afford no harboring place for residues that might pollute.

Lab Testing Unit

A SELF-CONTAINED LABORATORY testing unit has been announced by Tenney Engineering, Inc., manufacturers of automatic temperature, humidity and pressure control equipment.

The unit has facilities for accurately controlling temperature and relative humidity within a working chamber having a clear space 18 inch by 18 inch by 18 inch according to the announcement.

It is stated by the manufacturer that the temperature within the chamber in the regular model can be varied over a range from plus 20 degrees F. to plus



200 degrees F. An extension of this temperature range is available when desirable. The maximum rate of temperature change is 20 degrees F. per minute. When the desired temperature is reached, it can be maintained within a tolerance of plus or minus 2 degrees F.

It is claimed that the relative humidity can be controlled above or below ambient, at a minimum wet-bulb temperature of 33 degrees F. An extended surface dry-expansion coil is used to lower the temperature or relative humidity, independently.

The conditioning equipment is mounted directly beneath the working space in the chamber and includes a

Every type dairy brush you need
Metal sponges
Aprons of rubber, plastic and oilskin
Creamery hose and rubber footwear

SAVE TIME! Consolidate Your Purchasing by Using the Complete E-Mac Line

For Our Complete Line of Dairy Supplies
Write For Catalog No. 11

E-Mac DAIRY BRUSH CO., Reading, Pa.

Sales Service for Manufacturers of
MILK PRODUCTS
Evaporated Milk—Powdered Skim Milk — Powdered Buttermilk — Condensed Skim and Whole Milk — Powdered Whole Milk.
C. W. BURCKHALTER, Inc.
156 Franklin St. New York, N. Y.
WAlker 5-0727

heating unit, vaporizer type of humidifier, and a 1/3 H. P. air-cooled compressor having the new TENNEY Thermostatic Expansion Valve incorporated in the refrigeration system. An external light provides illumination of chamber interior during tests and an inspection port on the door affords a view of the entire working area.

Milk Cooler Promotion

DETAILS of a promotion campaign on Westinghouse milk coolers, keyed to a series of advertisements in 14 farm magazines, has been announced by H. R. Cummins, advertising manager of the Westinghouse refrigeration specialties department at E. Springfield, Mass.

The campaign will promote the advantages of electric milk coolers for keeping milk at uniform temperatures all-year round, for preventing bacteria growth, and for stopping the dairy farmer's milk from being rejected.

Advertisements are being used in Hoard's Dairyman, Wallace's Farmer, Dairymen's League News, Western Dairy Journal, New England Homestead, American Agriculturalist, Rural New Yorker, Pennsylvania Farmer, Ohio Farmer, Michigan Farmer, Wisconsin Agriculturalist, The Farmer, Nebraska Farmer, and Prairie Farmer.

In addition, cooperative advertising by dealers, direct mail letters, promotion booklets and a sound slide film will be used.

Westinghouse milk coolers are available in 12 models, their capacity ranging from three to 8 cans. Separate "drop-in" units also are available.

●

Fire-Resistant Paint

A NEW PATENTED fire-resistant paint called "Fire Stop" manufactured by Plicote, Inc. of Pittsburgh was placed on the market in October.

The paint which has desirable characteristics of utility and beauty, according to the manufacturer, is particularly valuable for its fire-resistant quality. The product is described as "a further improvement on fire-resistant paints orginally developed for the Navy". It is now available for commercial users.

Tests conducted on the paint revealed a high degree of fire-resistance. When exposed to the flame of a Bunsen-Burner "Fire Stop" formed brown blisters and the flames extinguished themselves in 10 to 15 seconds after the burner was removed.

The Plicote organization points out that it does not claim fire proof qualities for the new paint. "Such claims are ridiculous" according to Ira R. Messer, vice-president of the concern, "but Fire Stop can prevent the great majority of serious fires by stopping small fires before they spread."

The plaint is ready mixed and will cover wallpaper, plaster, concrete, brick, steel, and stone in one coat. It is washable and comes in five pastel tones plus white.

Westinghouse Food Mixer

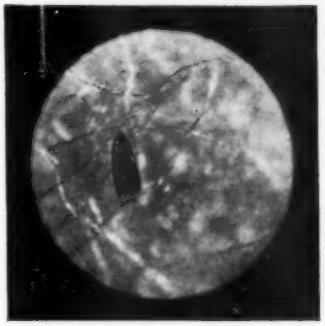
DISTRIBUTION OF A NEW portable food mixer is now being made on a limited basis by the Westinghouse Electric Appliance Division according to Ralph Z. Sorenson, manager of the small appliance department, Mansfield, Ohio.

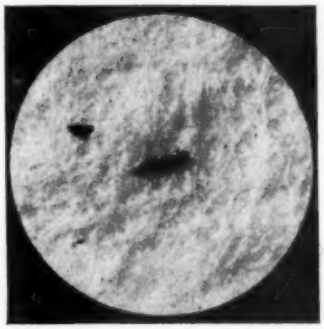
Present distribution is limited to the New England States, but will be broadened to other areas as production improves.

The new mixer is equipped with a one-eighth horsepower maximum load capacity motor with speed governor that maintains constant motor speed under varying loads.

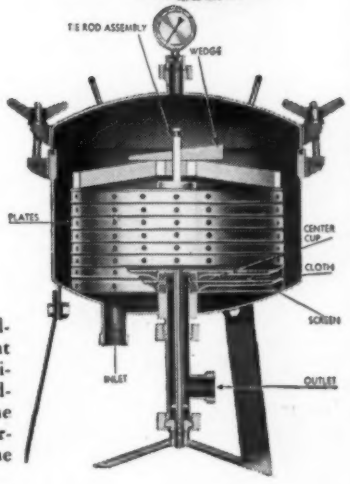
The off-center position of the beaters within the bowls gives a spatter-free mixing action. This feature allows ample space to add ingredients without danger of spilling or of catching cup or utensil in the moving beaters.

With few exceptions, the mixer needs only one dial setting to complete an entire task, thus leaving both hands free to handle ingredients. The mixer has an infinite number of speeds up to 900





Keep Dairy Products PURE with SPARKLER Horizontal Plate FILTERS



The problem of sediment in dairy products has become extremely important during the past few years. Often sediment pads of cream or other dairy products which appear quite good to the unaided eye are found to have undesirable material when examined under the microscope.

The illustrations shown here are examples of the types of harmful and objectionable impurities that often contaminate dairy products. Sparkler filters, using the horizontal plate principle, are assurance that all foreign substances are eliminated from the liquid being filtered.

Among the many materials removed from dairy products by Sparkler filters are feather and insect parts, vegetable matter, sand and clay, and cloth fibers. The incidence of rodent type hairs also is effectively reduced.

Construction and Design Features

1. Larger filtering area for continuous operation.
2. Positive "Sparkler" Wedge Seal—no by-passing.
3. Inexpensive, disposable filter medium—prevents blanking.
4. Easy cleaning — all parts made of rolled, stainless steel; quickly removed for washing.

Write for details

SPARKLER MANUFACTURING CO.
Mundelein, Illinois

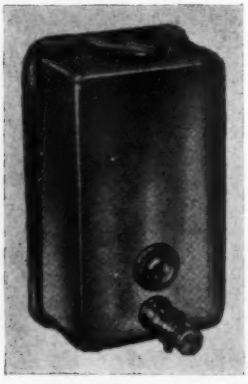
rounds per minute, although twenty specific speed settings are marked on the dial.

The entire surface of the motor and beater housing of the new food mixer is streamlined for easy cleaning. Lubrication is sealed in to give longer life to the motor and to eliminate the necessity of any liquid oiling. The mixer fits on any counter beneath standard overhanging cupboards.

All Metal Soap Dispenser

A NEW ALL METAL liquid soap dispenser is announced by the Bobrick Manufacturing Corporation of New York and Los Angeles. It is the Bobrick Model 12, made of Monel metal to meet the service requirements of schools, factories, service stations and public washrooms. Its capacity is over one quart.

Originally designed with an enamel body, the new version is produced only in highly polished Monel metal that will not rust or corrode. The new dispenser is equipped with Bobrick 860 valve. Its other features include: (1) concealed wall fastening that makes it theft proof; (2) large hinged filler cap that makes it tamper proof; (3) unbreakable "eye" that tells the attendant when it is time to refill.



Because of the design of the wall fastening, the dispenser can be attached with screws or with plastic rubber adhesive, which elminates the need of drilling holes in tile or other wall surfaces.

New Dispensing Faucet

A SANITARY FAUCET for general dispensing of all types of food liquids, has been announced by Economy Faucet Company, Newark, N. J.

Chief among the features of the new faucet is the fact that it is easily taken apart which permits of complete and simplified cleaning. This feature meets board of health sanitary requirements.

Other features of the new faucet are its finger tip control which gives a positive flow from a trickle to a full stream. A strong spring built in the faucet gives dripless shut-off. There is no twisting or turning of the wrist required to run the faucet on or off.

The Economy Faucet is available with ½ inch connections for application to any

type of dispensing urn or other container. Head and shank or flange fitting can be adapted to meet most any liquid dispensing purpose or size of line.

"Gift" Milk Filter Discs

A PRACTICAL GIFT is being included with a new 300-disc package of Perfection DUBL-CHEM-FACED Milk Filter Discs. The gift, known as the Disc-Deck, is a substantial, sanitary, rust-proof metal "shelf", to be fastened to wall of dairy barn or milk house, to hold a carton of 100 milk filter discs. The DISC-DECK was specially designed for the Schwartz Manufacturing Co., Two Rivers, Wis., manufacturers of Perfection DUBL-CHEM-FACED filter discs.

"Without any increase in price", says T. Robert Sullivan, Vice President in Charge of Schwartz Sales, "we are offering this new DISC-DECK, while they last, in the interests of helping to maintain high standards of clean milk production. While the quantity of DISC-DECKS is necessarily limited, farmers who go promptly to their suppliers of milk filter discs will have opportunity to benefit by this gift . . . without a penny of cost to them.

Rubber Based Paint

PARATEX, a wall coating for interiors has been developed by Truscon Laboratories of Detroit, Michigan.

The paint departs from the traditional vegetable oil base and uses a natural rubber treated with chlorine. The rubber resin is dissolved in a suitable solvent and used as the base of the paint coating.

According to the manufacturer the paint gives a self sealing flat finish that is effective on either painted or unpainted surfaces. No priming coat is needed. The paint is said to be easy to apply and does not lime burn because of its alkali proof character. It may be applied either by brush, roller, or spray.

Milking Machine Washer

THE SANIVAC, AN AUTOMATIC washer for any long tube milking machine, is being manufactured and marketed nationally by the Advance Engineering Co. of Waukesha, Wis.

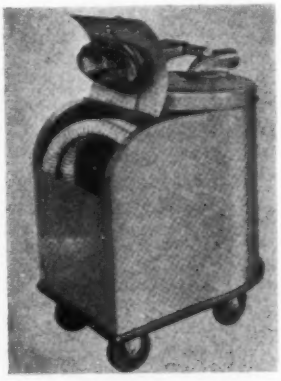
Developed as a companion to the Lyvac Washer, manufactured by Advance for distribution by the Universal Milking Machine Co., production of the Sanivac was limited by material shortages until recent months. The firm is in full production now, and according to H. L. Engels, president, is setting up national distribution through farm equipment dealers.

The Sanivac is a machine for washing the long milk tubes, claws, and teatcups of milkinng machines. Operating on vacuum supplied by the milker vacuum pump, it rapidly draws a cleansing solution through the teatcup assemblies, then automatically reverses the direction of solution flow through the milker parts.

Tank Type Cleaner

A NEW, ALL PURPOSE, industrial "Tank Type" cleaner for general vacuum cleaning, dust collection and water pick up is announced by Ideal Industries, Inc., Syracuse, Ill.

The cleaner has a self contained foltering system. Incoming air is whirled



around inside of the tank and heavy particles are deposited there. The air then passes through a cloth bag filter where dust is removed. Collected dirt is emptied from the cleaner by raising the vacuum sealed lid and lifting out the nine gallon tank and dust bag.

A 1½ horse power motor provides power. Construction is of 16 gauge steel with Hammerloid finish. A 30 foot primary cord provides 2700 square feet of coverage from a single outlet.

Ohio Dairy Products Association Meets This Month at Columbus

Mid West Group Arranges Splendid Program for Thirty-First Annual Convention—Record Attendance is Expected

THE RETURNING BUYERS' market and its attendant problems form the background for most of the subject matter for the coming 31st annual convention of the Ohio Dairy Products Association and its affiliated organizations. This event, which is annually one of the largest state dairy trade conventions in the country, will again be held at the Deshler-Wallick Hotel in Columbus, on January 26, 27 and 28, 1948.

More than 700 persons registered for last year's meeting, and an even larger attendance is predicted for the 1948 event, according to O. E. Anderson, Executive Secretary.

Speakers from various companies and institutions in 11 states already have been booked for appearance on the three-day program, with more than 20 outstanding addresses and reports to be delivered. In addition to two important general sessions, separate meetings will be held during the course of the convention for milk distributors, ice cream manufacturers, butter manufacturers and manufacturers of other products such as cheese, powder and evaporated milk.

Outstanding Speakers Scheduled

Already scheduled for definite appearance at the Columbus affair are the following speakers, together with their subjects: W. A. Gordon, Editor, The Dairy Record, St. Paul, Minn., "Intra-Industry Responsibilities and Relationships"; Dr. D. V. Josephson, Dept. of Dairy Technology, Ohio State University, Columbus, O., "Product Uniformity and Sales"; Hugh Hutchinson, Greenbriar Ice Cream Co., Lewisburg, West Virginia, "Ice Cream and Public Relations"; Perry Ellsworth, Ohio State University Extension Specialist, Columbus, Ohio, "Analyses and Audit Service for the Dairy Industry"; H. H. Sommer, University of Wisconsin, Dept. of Dairy Industry, Madison, Wisconsin, "Standardization for Inter-Market Sales"; Colonel Chas. S. Lawrence, Army Quartermaster Corps., Chicago, Ill., "What We Need in New and Modified Dairy Products"; L. C. Thompson, University of Wisconsin, Dept. of Dairy Industry, Madison, Wis., "Your Plant and Your Costs"; Earl Poling, General Manager, ADA of Ohio, Marysville, O., "Ohio's First Year With ADA"; Howard Simmons, President, Michigan Allied Dairy Association, Detroit, Mich., "Production Can Be Leveled"; N. R. Baker, Fairmont Foods Co., Columbus, O., "Butter's Future Impact on the Dairy Industry"; Robt. Rosenbaum, President, Dairy Industries Supply Association, Philadelphia, Pa., "Kicking The Pail Around"; J. J. Swaner, Swaner Farms Dairy, Iowa City, Iowa, "What Can We Expect In Various Milk Container Types"; Hubert Garrecht, Klinke Bros. Dairy, Memphis, Tennessee, "Your Container and Your Market"; R. B. Burr, Supplee-Wills-Jones Milk Co., Philadelphia, Penna., "How We Train Driver Salesmen"; Ray Alberts, American Butter Institute, Chicago, Illinois, "A Seal of Approval For Butter"; Fred Greiner, Ohio State University Extension Specialist, Columbus, O., "Improvement Programs and Extension Services"; Paul Potter, Paul Potter and Associates, Chicago, Ill., "What Does Your Product Cost You?"; E. G. Graber, Ohio State Dept. of Health, Columbus, O., "Ohio's Public Health Program"; and James Jackson, Executive Secretary, Georgia Dairy Products Association, Atlanta, Ga., "Politics Is Our Job, Too".

"What's she so snooty about?"
"Haven't you heard? The boss sends her eggs to market in SELF-LOCKING CUSHION EGG CARTONS!"
one dozen eggs

SELF-LOCKING EGG CUSHION CARTONS

A FEW USERS: The Borden Company . . . Bowman Dairy Company . . . Chestnut Farms-Chevy Chase Dairy . . . H. P. Hood & Sons . . . June Dairy Products Company, Inc. . . . . Lambrecht Foods Company . . . . . Rieck McJunkin Dairy Company . . . Sheffield Farms Company, Inc. . . . Western Maryland Dairy

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WANTS and FOR SALES

RATES: "Position Wanted," 50c. Limit of 50 words; 2c for each additional word. All other advertisements, 5c a word ($1.00 minimum). Keyed ads, 15c extra to cover return postage. The name and address should be included in counting the words. All payments strictly in advance.

FOR SALE — EQUIPMENT

FOR SALE—One Cherry-Burrell 28 RM 1200 lb. churn. Very good condition. $400.00. Cottage Creamery Company, Orrville, Ohio. 1-M

FOR SALE—Three (3) CP Tag Air operated recorder controllers with chart V-M-220-30-127 for fluid milk. For 200 gal. CP Multi-Process tanks having 3A2 sidewall conections 5-11/16" sleeve connections. These recorder controllers will bring your milk to 143 degrees and hold it. Brand new, never been used. Price $275.00 each. Dean D. Strickler & Sons, Huntingdon, Pa. 1-M

FOR SALE—One Cherry-Burrell Gra-Vac (G-70) bottle filler and one Heil Six-Wide bottle washer purchased new 1945. Also one Cherry-Burrell Homogenizer — 200 gallon size. Long Meadow Dairies, Durham, N. C. 1-M-2

FOR SALE—Cheap—Stainless steel insulated milk tanks—1600 and 1800 gallon on trucks, 2000 to 3500 gallon on trailers and frameless trailerized, also plant storage tanks. Meyyer Simon, 150 W. 87th St., N. Y. City. 1-M

FOR SALE—One 42x100 Buflovak roller drier and two American driers 36x84 in good operating condition—150 H.P. Brownell fire box type boiler for either coal or oil. Farmers Cooperative Creamery Co., Clear Lake, Wis. 1-M

FOR SALE—Available December 20th, one Wright bottle filler, $75.00 and one Wright pressure case bottle washer, less motor, $75.00. both to handle round bottles only. One 4 ft. surface cooler, $50.00. 100 quart cases and 20 pint cases, 40c each. 20 Cleveland ½ pint cases and 10 plain ½ pint cases $1.00 each. 4,000 quart bottles, 1,000 Cleveland or beverage ½ pints. All bottles 56mm, priced at 2½c each. All items f.o.b. Clarence, N. Y. Clarence Farms Dairy, Clarence, N. Y. Phone Clarence 3033. 1-M

FOR SALE—One 1000 lb. Model 1, Size 2 Vane Butter churn complete with 3 H.P., 220 volt 60 cycle motor. This unit is in splendid working condition, used very little. Price $1,000.000 F.O.B. Sherman White & Co. Fort Wayne, Indiana. 1-M

FOR SALE — EQUIPMENT

BUSINESS SOLD—Dispersal of A-1 equipment. 100 gal. stainless steel pasteurizer, milk pump, pipes and aerator, complete unit; automatic bottle washer, 60 cases per hour; hand bottle filler, 4-valve with Dacro capper. P. O. Box 55, Somerville, N. J. Phone 0855. 1-M

FOR SALE—800 gallon Multi-Flo Creamery Package Homogenizer, stainless steel, 500 gallon Creamery Package Multi-Process Pasteurizer, stainless steel inside, fully insulated, vertical agitator. Model D-2A electric automatic Bagby Sour Cream filler, 40 bottles per minute, 80 quart stainless steel hopper. Two Von Gunten 12,000 lb. filters, white metal. Manchester Cream Co., Inc., 421, E. 174th St., New York 57, N. Y. 1-M-2

FOR SALE—ONE Type J Damrow Rotary Can Washer, one 4-wide Model "C" Soaker Cherry-Burrell Bottle Washer, one G 70 Cherry-Burrell Filler and Capper, one Cherry-Burrell Bottle Conveyor, one 15 mould Novelty Freezing Tank, one 300 gallon Cherry-Burrell Forewarmer, two Surface Coolers, one 300 gallon Coil Vat, one Stainless Steel Creamery Package Two-Compartment Weigh Can, one Sweet Water Tank, and one Creamery Package Water Heating and Circulating Unit. All of the above equipment now in use; will be available soon after January 1st. Gateway Creamery Company Joplin Missouri. 1-M

FOR SALE—1 Buffalo Roll Dryer 24 in. x 36 in. 1 Mojonnier 6 ft. Copper Vacuum Pan with Vacuum Pump. 1 250 HP. Farrar & Trefts Broiler complete with two Todd Oil Burners Pumps, Heaters and all controls. 3 Moyno Pumps, 2 Sharples Clarifiers. 1 All-American Band Meat Saw. 3 Steam-driven De Laval Separators. 1 New De Laval Separator, stainless steel discs, Model 192. 1 Coal Stoker (Never used) Iron Fireman No. PS-24 for 250 HP. boiler. 1 Dickerson Liquid Filler, 48 cell, 6 oz. size. 6 Ammonia Coils, 1¼ in. pipe, 9 in. wide x 8 ft. 6 in. long, 12 coils high. 14 Barrel Racks. 1—1200 gallon Mojonnier Pasteurizer with Agitator (tinned copper). 1—300 gallon Drop Tank with Agitator (tinned copper). 1 Surface Cooler with two 8-tube sections and one 10-tube section, 8 ft. long (tinned copper). For complete information contact W. G. Meier or R. O. Phillips. Wyeth Incorporated, Mason, Michigan. 1-M

FOR SALE—Used Venn-Severin Oil Engine 80 H. P.—275 RPM direct connected to Allis-Chalmers 240 V-211 amp.—3 h.p.—60 cy.—300RPM 87½KVA generator complete with switch board complete of GE make. Also DC generator comp. wd.—6KW—1450 RPM—48 amps.—120 V no load, 125 V with load, A.C. make. Now completely installed where last used and apparently in good usable shape. Inspection invited. Price $2750.00 net, loaded at Watertown, Wis. or about ½ new cost. Otto Biefeld Co., Watertown Wis. 1-M

FOR SALE—No. 40 DeLaval Separator, Creamery Package Cooler, 6 ft. 24 tubes. Ideal and Vendal Milk Vending Machines. Stamsvick Milk Filter. Dump Tank with bottom valve and strainer. One inch sanitary pipes and valves. Pilfour Dairy, Neshanic, N. J. 1-M

FOR SALE—300 gal. running in oil, motor driven viscolizer—bronze head, extra head for spare $450.00. Sectional surface cooler 4 to 7 thousand pound capacity complete with trough, covers, spreader and supports $175.00. Specialty Brass preheater up to 8 thousand pound capacity with Taylor automatic temperature control $150.00. All in first class condition and replaced with larger equipment. Asselin Creamery Company, Norway, Michigan. 1-M

FOR SALE—100 gallon Round S.S. Pasteurizers; 100, 150 and 300 gallon S.S. Spray Vat. Pasteurizers; 350 and 550 gallon Jensen Vertical S.S. Coil Vats; 5 ft. 24 tube, 8 ft. 22 tube and 10 ft. 28 tube Combination Direct Expansion Coolers; 9 ft. 10 tube and 12 ft. tube Internal Tubular Coolers; Cherry-Burrell Super Plate Type Cooler. 40 plates; G-100 and G-160 Cherry-Burrell Nu-Line Fillers; Model 6-16 Cherry-Burrell Filler; 4, 6 and 8 Wide Soaker Type Bottle Washers; 12,000 lb. Wisner "Peerless', Specialty Brass Company Twin and Cherry-Burrell S.S. Filters; Lathrop-Paulson and Creamery Package Rotary Can Washers, 3 c.p.m.; No. E-28 and No. 72 De Laval Motor Driven Separators; No. 142 "Air-Tight" Clarifier with No. 25 Waukesha Pump; 75 gallon Viscolizer with sanitary stainless steel head and 125 gallon Viscolizer with alloy steel head, also Bronze Head Homogenizers or Viscolizers ranging in sizes from 75 to 450 gallons in capacity; 500 and 1000 gallon Creamery Package Stainless Steel Storage Tanks with direct expansion agitators; 850, 1000, 2000, 3000 and 4000 gallon Glass Lined Tanks; 2300 gallon Heil Stainless Steel Truck Tank; 36 in., 42 in. and 6 ft. copper vacuum pans; 48 in. Stainless Steel Vacuum Pan; No. 10 Waukesha Sanitary Pump Vari-Drive, ¾ H.P.; New Model, "MS" Tri-Clover Stainless Steel Centrifugal Sanitary Pumps, ¼ H.P.; Cherry-Burrell Stainless Steel Weigh Can, 30 in. x 26 in. x 17 in. with Scale and Pump; Lathrop-Paulson Two Compartment Stainless Steel Weigh Can 58 in. x 44 in. x 21 in.; Surge Tanks, etc. Write or wire your particular requirements and plan to visit our new warehouse and shop. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y. 1-M

Better **DRY MILK**

AT LOWER COST

DRY MILK MACHINES

Built in Five Sizes

The patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs.

Complete details upon request.

OVERTON MACHINE COMPANY

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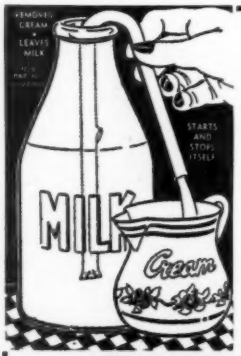

NEW — INTERESTING — USEFUL

MAGIC CREAM SIPHONS, for home use, remove cream from bottled milk, for use with coffee, cereals and desserts.

PLEASE OLD CUSTOMERS— WIN NEW FRIENDS

Leading dairy firms find Magic Cream Siphons a welcome sales booster aid. Housewives appreciate them and homes using a cream remover will consume more milk, when convinced by experience that many dishes are improved by the liberal use of milk instead of water in cooking. Free sample, for round or square bottles. Two models are made.

$12.50 per gross-$83.00 per 1000

Complete Satisfaction Guaranteed

MERIT MANUFACTURING COMPANY

3455 EAST 150TH STREET CLEVELAND 20, OHIO

FOR SALE — MISCELLANEOUS

FOR SALE—Chocolate Milk made with Bradway Non-Setting Chocolate Syrup and Powder is superior. Place your trial order now. BRADWAY CHOCOLATE COMPANY, New Castle, Ind. 1-M-t.f.

USED MILK BOTTLE CRATES—Can deface old name and rebrand. Write or phone for present day inventory. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland, Ohio. 1-M-t.f.

FOR SALE—A bargain in BOTTLES and CASES 56 mm or No. 2 Standard blown letter round bottles in all sizes. Also wood cases. Very good discount on carload purchases. Long Meadow Dairies, Durham, N. C. 1-M-2

FOR SALE—25 Gross (never used) round quart bottles with No. 2 cap seat. Also used quart, pint and one-half pint bottles ad wire cases. F.O.B. Iron Mountain. Pine Moutain Dairy, Iron Mountain, Mich. 1-M-t.f.

IMMEDIATE DELIVERY

S. Pinn & Son offers immediate delivery from all your steam problems.
Boilers and Machinery Installed.
Plants Modernized.
Steam and Conservation Surveys.
(Eastern Territory Covered)
S. PINN & SON
1271 Hoe Avenue New York 59, N. Y.
1-M-t.f.

BUSINESS OPPORTUNITIES

FOR SALE—Wholesale and retail milk and milk products distributing business; 5 modern trucks; equipment; New York State, about 35 miles from New York City; approximately $175,000 annual business; steadily improving; price $45,000, all cash.. Box 217, care this publication. 1-M

POSITION WANTED

GENERAL MANAGER or Sales Manager—Thoroughly experienced, take complete charge of ice cream and milk business, also butter. Record, character and references furnished. Box 218, care this publication. 1-M

AS MILK PLANT manager or superintendent. Have full knowledge through practical experience in the milk business as to processing, quality and laboratory control. Can handle plant and sales personnel as to operate plant efficiently in order to get best results at the lowest possible cost. My ability can be proven with your consideration. Box 215, care this publication. 1-M

HELP WANTED

DO YOU FEEL that your present sales job is leading to a dead end? We have several openings for better-than-average men who want a better-than-average future, with a nationally known, well established manufacturer of equipment for the dairy industry. If you really have something on the ball, this may well be the opportunity you are looking for. Our present personnel knows of this advertisement. Box 219, care this publication. 1-M

WANTED—Superintendent for New York City approved milk plant located in New York State. Must have knowledge of manufacturing heavy sweet cream, sour cream, ice cream mix, skim condensed milk and roller skim powder. Also knowledge of equipment maintenance. Box 216, care this publication. 1-M-t.f.

WANTED

WANTED—SKIM MILK, year round; New York State plant or nearby. Plant must have facilities for cheese making. Box 214, care this publication. 1-M-t.f.

F. C. BUTTON MEMORIAL

New York—Proposals for the establishment of a memorial to Prof. F. C. Button were unanimously accepted by the Metropolitan Dairy Technology Society at its November meeting. Professor Button, who was for many years the Secretary of the Society passed away a few months ago. He was a member of the Dairy Department at Rutgers University.

A Button Memorial Committee has been studying the matter of suitable memorial. The recommendations of the committee were:

1. That a portion of the Dairy Industry Library, at Rutgers University, be reserved and designated as "The Button Memorial Library."
2. That a suitably inscribed bronze plaque be affixed to this section.
3. That the Metropolitan Dairy Technology Society purchase some Dairy Industry Texts for this library.
4. That the membership of the Society be canvassed for extra or duplicate volumes from their personal library.
5. That an appropriate "Memorial Book Plate" be affixed to each volume.
6. That all duplicate texts, after being properly identified with a Button Memorial Book Plate, be presented to the Library of the Long Island Agricultural and Technical Institute.

●

MARKETING AREAS MERGED

Merger of the Federal milk orders regulating milk handling in La Porte and St. Joseph counties, Indiana, into one Federal order (No. 67) was announced recently by the U. S. Department of Agriculture. The merger was effective Dec. 1, 1947.

Handling of milk in La Porte county has previously been regulated under Federal Milk Order No. 20, and in St. Joseph county under Federal Milk Order No. 67.

The new Order 67 also includes revised classification and pricing provisions which (assuming the same level of basic prices) will increase the average annual price to producers by 5 to 10 cents per hundredweight of milk. Other provisions in the new order are chiefly administrative.

●

LAND O'LAKES STORY

The story of Land O'Lakes Creameries is told in the book "Men To Remember", by Kenneth D. Ruble. The book, just off the press, is a tale of the dairy industry's growth to its position as a mainstay of agriculture. Part biography, part history, the story goes back to the early days when Jean Baptiste Faribault drove the first herd of dairy cattle into Minnesota territory to help feed the soldiers at Fort Snelling. The book sets forth the struggle of cooperatives to get started and high-lights the constant fight for higher standards and better products.

It is quite possible that "Men To Remember" will become a book to remember.

FOR A DEPENDABLE SOURCE OF HIGH QUALITY DAIRY PRODUCTS, CALL US.

MILK	BUTTER
FRESH CREAM	BUTTERMILK
FROZEN CREAM	DRIED SKIM MILK SOLIDS
SOUR CREAM	SWEETENED SKIM CONDENSED MILK
COTTAGE CHEESE	ICE CREAM MIX
FARMERS CHEESE	BAKERS CHEESE
POT CHEESE	PLAIN SKIM CONDENSED MILK

GRANDVIEW DAIRY, Inc.
6071 METROPOLITAN AVENUE, RIDGEWOOD, N. Y.
PLANTS AT:
Arkport, New York — Bear Lake, Pennsylvania — Cohocton, New York — Neenah, Wisconsin

Index of Advertisers

	PAGE
A	
American Association of Medical Milk Commissions	62
American Food Laboratories, Inc.	66
B	
Baker Box, Inc.	61
Boler Petroleum Company	46
Bradway Chocolate Company	13
Buflovak Division of Blaw-Knox Co.	39
Buhl Manufacturing Co.	65
Burckhalter, Inc., C. W.	70
C	
Certified Products Co.	32
Cherry-Burrell Corp.	5, 9, 29, 33, 45
Columbia-Westfalia Centrifuge, Inc.	20
Creamery Package Mfg. Co.,	Inside Back Cover
D	
Damrow Bros. Co.	21
De Laval Separator Co., The	Inside Front Cover
Diamond Alkali Company	17
E	
E-Mac Dairy Brush Co.	70
Erickson Co., Inc., C. E.	37
EZE Orange Company	23
G	
General Biochemicals, Inc.	63
Girton Mfg. Co.	7
Grandview Dairy, Inc.	75
K	
Klenzade Products, Inc.	53
Kurly Kate Corp.	69
L	
Langsenkamp-Wheeler, Brass Works, Inc.	47
M	
Marley Company, Inc., The	59
Mathieson Alkali Works (Inc.)	35
Merit Manufacturing Co.	74
Mid-Texas Manufacturing Co.	64
Millington Truck Body Co.	19
Misson Dry Corporation	26
Mojonnier Bros. Co.	Back Cover
N	
National Dairy Council	41
O	
Overton Machine Co.	74
P	
Peerless Pump Division (Food Machinery Corp.)	57
R	
Rogers Co., C. E.	62
S	
Schwartz Mfg. Co.	11
Sediment Testing Supply Co.	36
Self-Locking Carton Co.	73
Simmons Dairy Products, Ltd.	66
Sparkler Mfg. Co.	71
Specialty Brass Company	25
Stainless & Steel Products Co.	18
Stange Co., Wm. J.	68
Steel and Tube Products Co.	64
Sterling Research Corporation	26
Stoelting Bros. Co.	67
T	
Thatcher Mfg. Co.	27
U	
Unek Products Company	68
W	
Wallmac Company, The	63
Waukesha Foundry Co.	55

OF EVENTS TO COME

North Carolina Dairy Products Association—Annual meeting, Hotel Sir Walter, Raleigh, N. C., January 15 and 16, 1948. Executive vice-president, L. L. Ray, Insurance Bldg., Raleigh, N. C.

Kansas Ice Cream and Milk Institute, Inc.—Annual convention, January 19, 1948. Executive Secertary, Dale M. Bryant, 1004 Brown Bldg., Wichita 2, Kan.

Virginia Dairy Products Association—Annual convention at the Roanoke Hotel, Roanoke, Va., January 19 and 20, 1948. Secretary, C. L. Stahl, Monticello Dairy, Inc., Charlottesville, Va.

Pennsylvania State College—Ice Cream Short Course, for plant personnel, State College, Pa., January 19-31.

National Dairy Council—Annual winter conference, Hotel Schroeder, Milwaukee, Wis., January 22-23.

Georgia Dairy Association—Annual convention, Sheraton Bon Air Hotel, Augusta, Ga., January 23 and 24. Secretary, Jamess E. Jackson, 414 Hurt Bldg., Atlanta, Ga.

Ohio Dairy Products Association—Annual convention dates have been changed to January 26-28, 1948. Will be held at the Deshler-Wallick Hotel, Columbus. R. A. Larson, associate secretary, 5 E. Long Ct., Columbus 15, Ohio.

Refrigeration Equipment Manufacturers Association — Fifth all-industry exposition, Public Auditorium, Cleveland, Ohio, January 26-29.

Mississippi Dairy Products Association—Annual convention, Buena Vista Hotel, Biloxi, Miss., January 29 and 30, 1948. Secretary, Prof. F. H. Herzer, Mississippi State College, State College, Miss.

Colorado and Denver Dairy Products Associations—Annual convention, Cosmopolitan Hotel, Denver, Colo., February 1-3, 1948. Ammon Bradshaw, 415 Chamber of Commerce Bldg., Denver, Executive Secretary.

Upper Peninsula Dairy Manufacturers Association—Annual convention will be held in Marquette, Mich., February 13 and 14. Secretary, Walter Nelson, Manistique, Mich.

Oregon Dairy Products Association—Annual convention, Oregon State College, Corvallis, Oregon, February 16-18, 1948. Dr. G. H. Wilster, Oregon State College, Secretary.

Michigan Allied Dairy Association—Annual convention, Pantlind Hotel, Grand Rapids, Mich., March 2-4, 1948. L. N. Francke, 1110 Olds Tower Bldg., Lansing, Mich., Secretary.

Dairy Products Association of Kentucky—Annual convention, Louisville, Ky., March 11 and 12, 1948. F. T. Flynn, 128 E. Chestnut St., Louisville, Ky., Secretary.

Kentucky Dairy Products Association—Annual convention March 11 and 12, 1948, place to be announced. Secretary, F. T. Flynn, Louisville, Ky.

Louisiana Association of Ice Cream Manufacturers—Annual convention will be held at the Jung Hotel, New Orleans, La., March 22 to 24, 1948. Secretary, John P. White, Sr., Pelican Creamery, East Main St., New Iberia, La.

American Dairy Science Association—Annual convention, University of Georgia, Athens, Ga., June 14-16, 1948. R. B. Stoltz, Ohio State University, Columbus, Ohio, Secretary.

New York State Association of Milk Sanitarians—Annual convention, Hotel Statler, Buffalo, N. Y., September 22-24, 1948. C. S. Leete, New York State Department of Health, Albany, N. Y., Secretary.

●

MAGUIRE COMPANY MOVES

The Maguire Machinery Company, Inc., 330 West 42nd St., New York, has moved its manufacturing facilities into a new plant at Peekskill, New York. A fully equipped machine shop, structural steel shop, assembling floor and stock department is already in operation. Maguire Solid Frame and Angle Frame conveyors for the dairy, food and bottling industries will be manufactured in the new plant.

PRIZE WINNING FLOAT

Martin Century Farms Receives Award for Unique Dairy Display in Local Anniversary Parade

They installed it, took it out, gave it a ride and then installed it again. It was a lot of work but it was worth it. IT was a huge 3000 gallon storage tank manufactured by the Heil Company of Wisconsin and owned by the Martin Century Farms a leading dairy firm in Lansdale, Pennsylvania.

The sequence of events really started when the tank was removed from a railroad flat car and trucked through Lansdale streets to the Martin plant. The

Martin Century Farms Float that won second prize in Landsdale Anniversary Parade.

sight of the great steel cylinder was deeply appreciated by the side walk superintendents. Consequently when the Martin concern was asked to participate in the celebration of the cities 75th annivesary, a float featuring the new tank was a logical project.

Although the equipment had been installed, the tank was taken out of the plant and used as the basis of the float.

●

TWO DAIRY SCIENTISTS CITED

In appropriate ceremonies in Washington, Secretary of Agriculture Anderson, recently presented 33 employees of the U. S. Department of Agriculture the Superior Service Award for outstanding service. Among the recipients were two dairy scientists, R. E. Hodgson, assistant chief of the Bureau of Dairy Industry, and M. H. Fohrman, who is in charge of the Bureau's Division of Dairy Cattle Breeding, Feeding, and Management Investigations.

Dr. Hodgson's award was for his "development of a technique for measuring yields of pastures and for valuable contributions to the knowledge of the nutritive values of herbage of different kinds and their utilization by dairy cattle."

Mr. Fohrman's award was for his "contribution to the dairy industry by demonstrating the effectiveness of the continuous use of meritoriously proved sires for purifying and concentrating superior germ plasm in dairy herds thereby increasing their productive capacity."

XUM

For Leadership Quality — Worth Waiting

Another modern plant — Reed Bros. Dairy, Memphis, Tenn.—equipped with CP 12-Wide C Bottle Washer.

THE CREAMERY PACKAGE MFG. COMPANY

1243 W. Washington Blvd., Chicago 7, Illinois

CREAMERY PACKAGE MFG. CO. OF CANADA, LTD.
267 King Street, West • Toronto 2, Ontario, Canada

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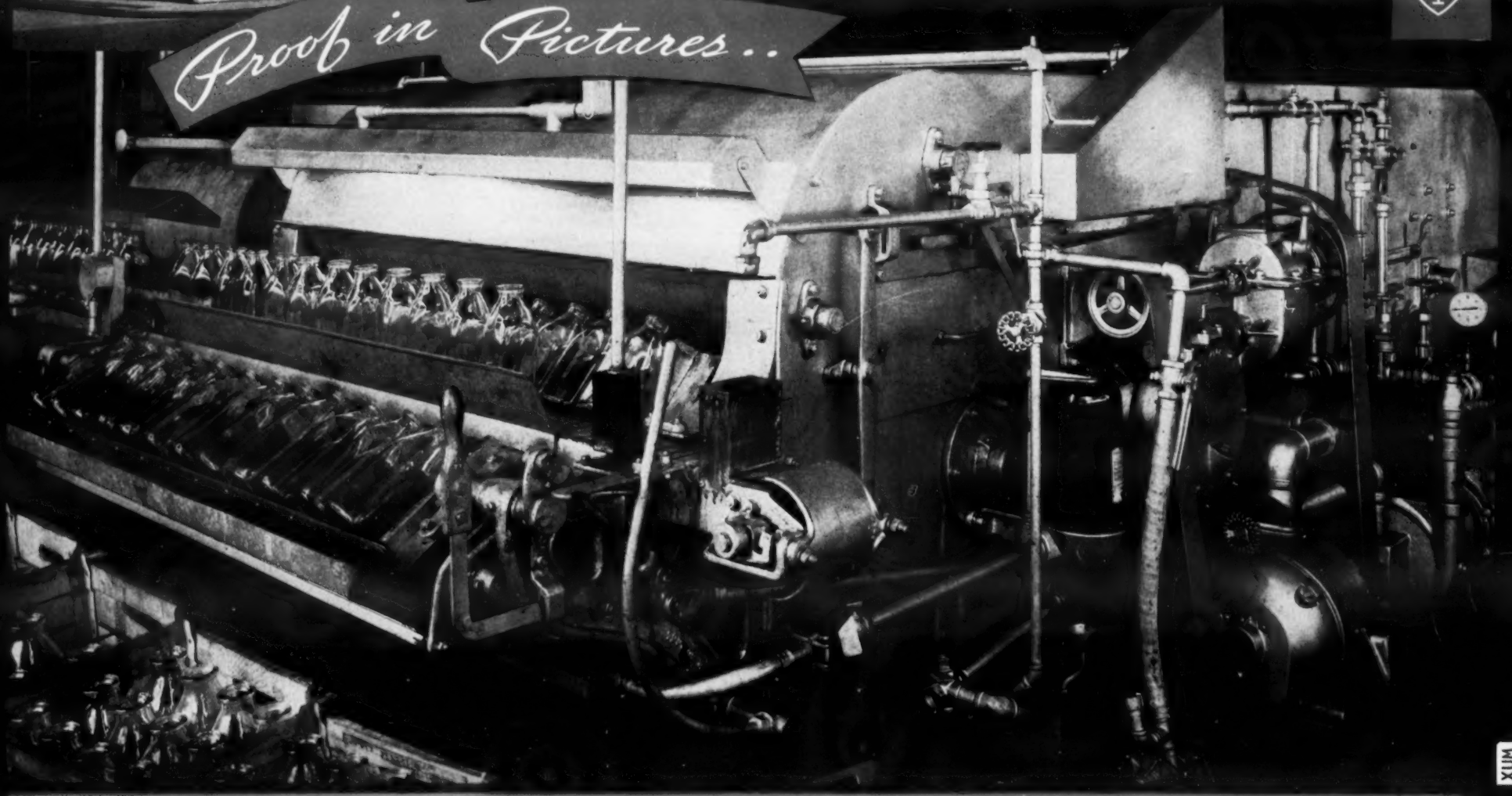
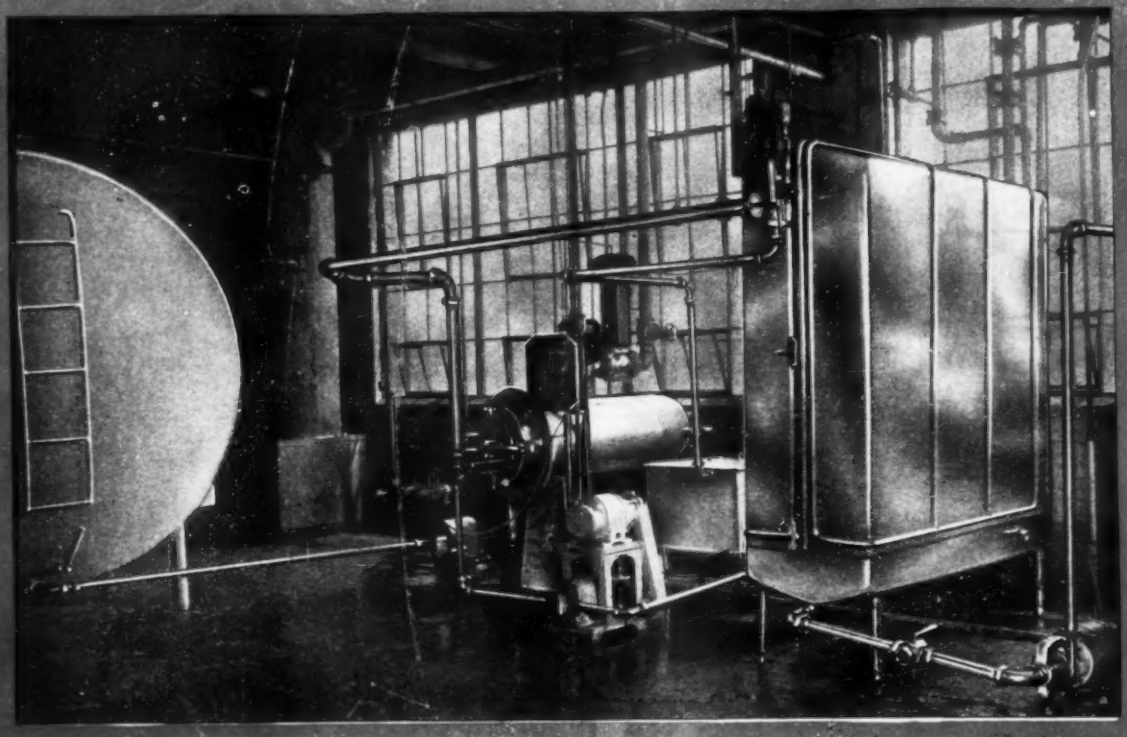


Do it the Simple Way...

WITH THE Mojonnier

Short-Time, High-Temperature Pasteurizing System

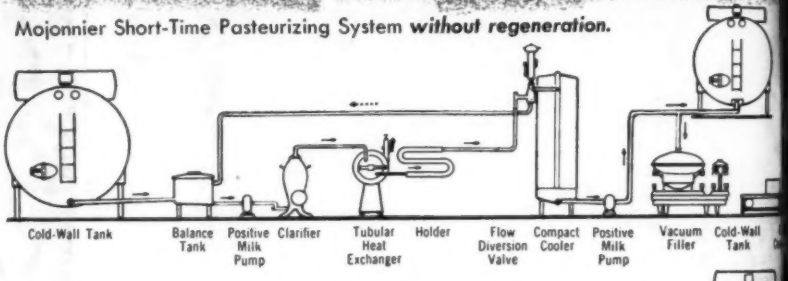


Simplified
- Heating
- Cooling
- Controls
- Piping
- Cleaning
- All-Over Operation

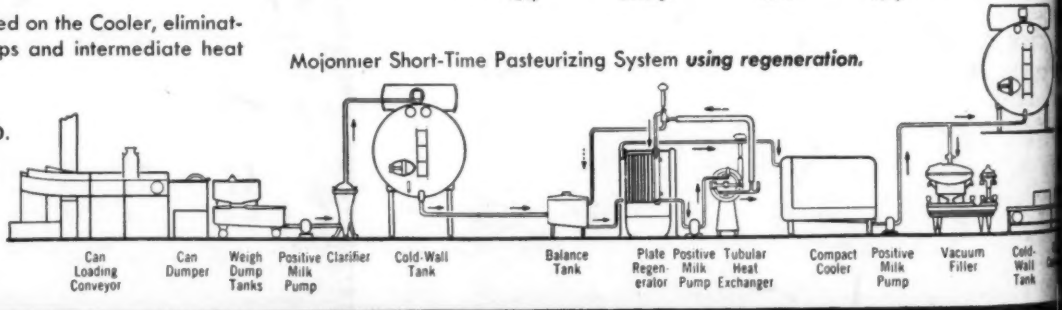
Mojonnier Short-Time Pasteurizing System, 9,000 lbs. per hour capacity, in plant of Detroit Creamery, Detroit, Mich. Complete system consists of, left to right: Cold-Wall Tank for receiving, storing and cooling raw milk, Tubular Heat Exchanger for heating milk to 165° F., Balance Tank and Compact Cooler. A minimum of equipment is employed. Direct steam is used on the Tubular Heat Exchanger.

Direct ammonia is used on the Cooler, eliminating all circulating pumps and intermediate heat transfer systems.

Mojonnier Short-Time Pasteurizing System *without regeneration.*



Mojonnier Short-Time Pasteurizing System *using regeneration.*



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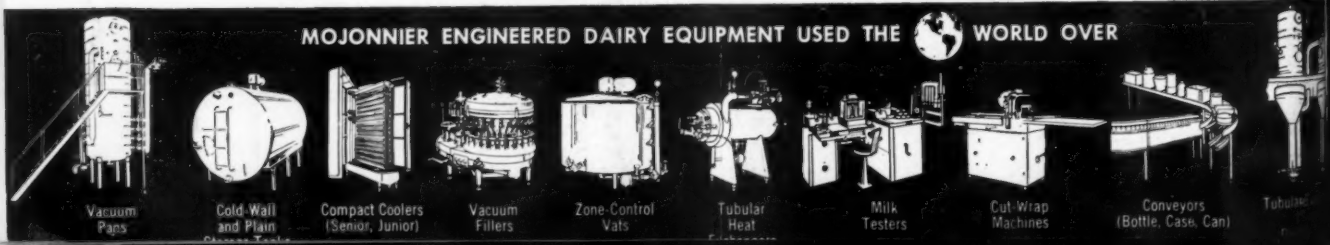
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